DOCUMENT RESUME

ED 250 888 EC 171 125

AUTHOR Rhoades, Ellen A.; And Others
TITLE Child Evaluation. UNIsensory Project.
INSTITUTION Auditory Educational Clinic, Atlanta, GA.
SPONS AGENCY Office of Special Education (ED), Washington, D.C.
PUB DATE [84]
GRANT G008000202
NOTE 48p.
PUB TYPE Journal Articles (080) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Deafness; *Hearing (Physiology); *Hearing Aids; *Hearing Impairments; Infants; *Intervention; Program Effectiveness; Young Children

ABSTRACT

The report presents evaluation data on 29 deaf children (from birth to 6 years old) treated in the UNIsensory Project at the Auditory Educational Clinic in Atlanta, Georgia. A data sheet is provided for each child served in the program, with information on chronological age, severity of hearing loss (aided and unaided), length of intervention, parent and therapist estimates of the child's hearing handicap, pre- and post-test scores on language and communication tests (the Sequenced Inventory of Communication Development, Peabody Picture Vocabulary Test, and the Test for Auditory Comprehension of Language), and explanation and comments. Composite data are then presented in table forms. Parent evaluation information is cited that shows high support for the project. Among conclusions noted is that the project was very successful in improving the aided thresholds of hearing impaired Ss with the use of amplification. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED250888

UNISENSORY PROJECT:
CHILD EVALUATION

Ellen A. Rhoades

Ron Colarusso

Ben Layne

This document was prepared under grant No. G008000202 from the Office of Special Education, U.S. Department of Education. The opinions expressed herein do not necessarily reflect the position or policy of the U.S. Dept. of Education, and no official endorsement should be inferred.

EC 17 1125

CHILD EVALUATION

Ellen A. Rhoades, Ron Colarusso, Ben Layne

During the three-year period from 7/80 to 6/83, a total of 163 children (0-6 years of age) were referred to the UNIsensory Project by the Auditory Educational Clinic. Of these, 113 children were scheduled for hearing and/or developmental evaluations. As a result of the screenings, 70 Ss were not admitted into the UNIsensory Project for the following reasons:

(a) no difficulties or delays could be determined

(b) parents selected other educational options, e.g., total communication.

(c) family failed to keep appointments

Consequently, 43 Ss were admitted into the UNIsensory Project over its three-year period. However, 14 of the 43 Ss were subsequently found to demonstrate one of the following difficulties shortly after enrollment in the program:

(a) child's deafness was not the primary handicap, i.e., the child was multihandicapped.

(b) child's parents later decided not to actively participate in the UNIsensory Project.

(c) child entered project during last six-month period of project's third year and post-test data could not be determined.

None of these subjects are considered in the data to be reported herein. Therefore, a total of 29 children were treated in this project and are considered in the data.

The child evaluation of this three year project is divided into three areas: child intervention data; parent, teacher, and therapist estimates of the children's abilities; and parent evaluation of the intervention program.

CHILD INTERVENTION DATA

Due to the nature of the intervention program and the type of children served in this project, it was impossible to do group analyses on the data collected that was related to therapy. This is true because the length of intervention varied by subject, and the age differentiation of the subjects required the use of different evaluation instruments. Therefore, too many assumptions were violated to perform group analyses. It was also impossible to employ a true single subject design because of the need to collect baseline data. Therefore, data on each child is descriptive in nature. A "CHILD DATA SHEET" is presented for each child served in the program. The following information is included:

1. Chronological age (in months) at time of admittance to the project.
2. Severity of hearing loss, unaided and aided. Aided and unaided scores were obtained by computing Pure Tone Averages (PTAs). Scores were assigned to hearing categories as follows:

0 - 20.....normal

21 - 40.....mild

41 - 60.....moderate

61 - 90.....severe

91 - NR.....profound

If no response was found, a child was arbitrarily assigned a score of 120 dB.

3. Length of intervention in months.
4. Parent and therapist estimate of the child's hearing handicap (1 = no handicap, 10 = very serious).
5. Pre- and post-test scores presented in months for: the Sequenced Inventory of Communication Development (SICD), the Peabody Picture Vocabulary Test-R (PPVT), and the Test for Auditory Comprehension of Language (TACL).
6. Pre- and Post-test total scores for the Arizona Articulation Proficiency Scale (AAPS). Scores can be interpreted as follows:

9.50 to 100.0	Sound errors are occasionally noticed in continuous speech.
85.0 to 94.5	Speech is intelligible although noticeably in error.
70.0 to 84.5	Speech is intelligible with careful listening.
60.0 to 69.5	Speech intelligibility is difficult.
45.0 to 59.5	Speech usually in unintelligible.
0.0 to 44.5	Speech is unintelligible.

7. Explanation and comments are also included for each child where appropriate.

Data is missing for some subjects due to the facts that:

a) some families left the project before post-testing could be completed.

b) some children were too young to be tested with some assessment tools, i.e., PPVT-R, TACL.

c) the total assessment plan was not devised until the beginning of the project's second year.

While some scores are indicated to be pretest scores, they are not in fact pretest scores, having been administered several months subsequent to enrollment.

It should be noted that the ceiling on the SICD is 48 months. Therefore, SICD scores of 48 indicate that the subject scored at 48 months or higher. The PPVT-R and the TACL were not administered to subjects until they demonstrated at least a two-year verbal developmental level on the SICD or until a basal score could be achieved.

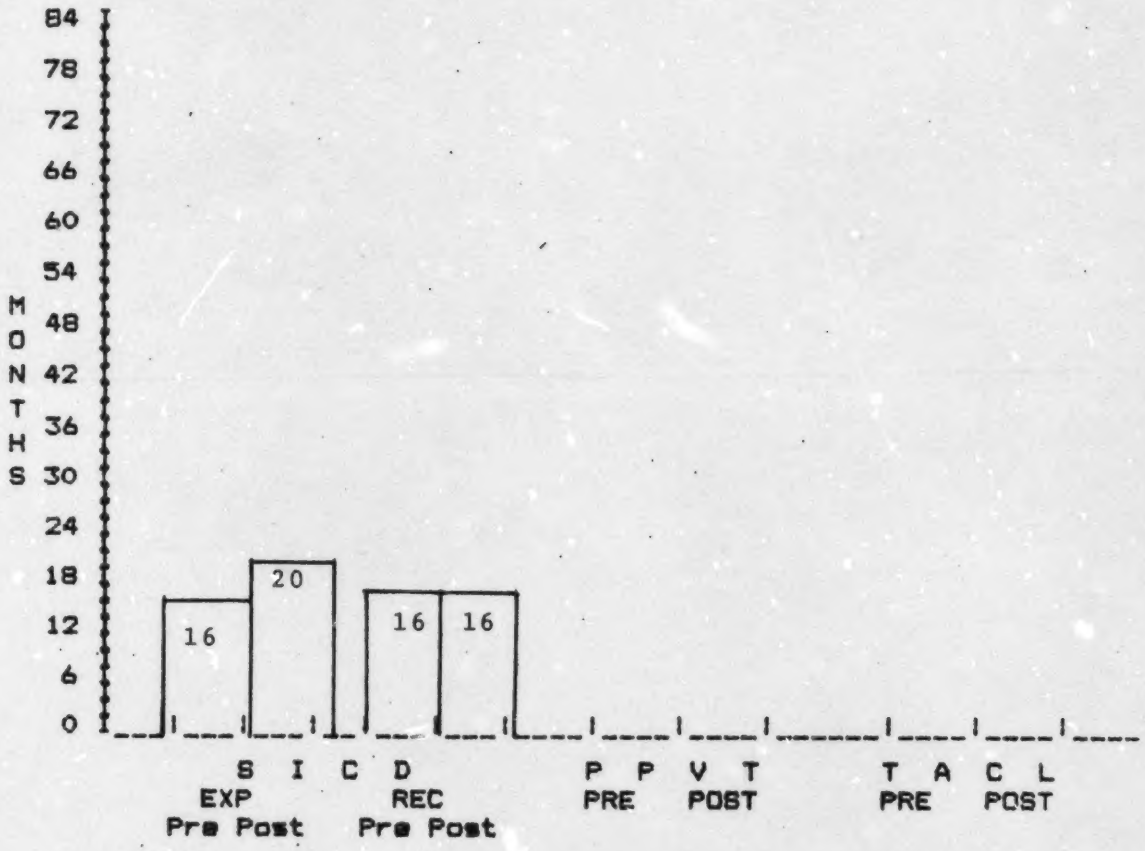
ID# 1___

CHRONOLOGICAL AGE 33_ SEX M___

SEVERITY OF HEARING LOSS
UNAIDED 83_ AIDED _28

LENGTH OF INTERVENTION _9_ MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT ___ THERAPIST ___



AAPS PRE ___ POST ___

- Missed more than one-half of therapy sessions
- Inconsistent amplification (broken aids, lost aids, etc.)
- Parents frequently out-of-town, so four children left in charge with 16 years old babysitter
- Not Mainstreamed

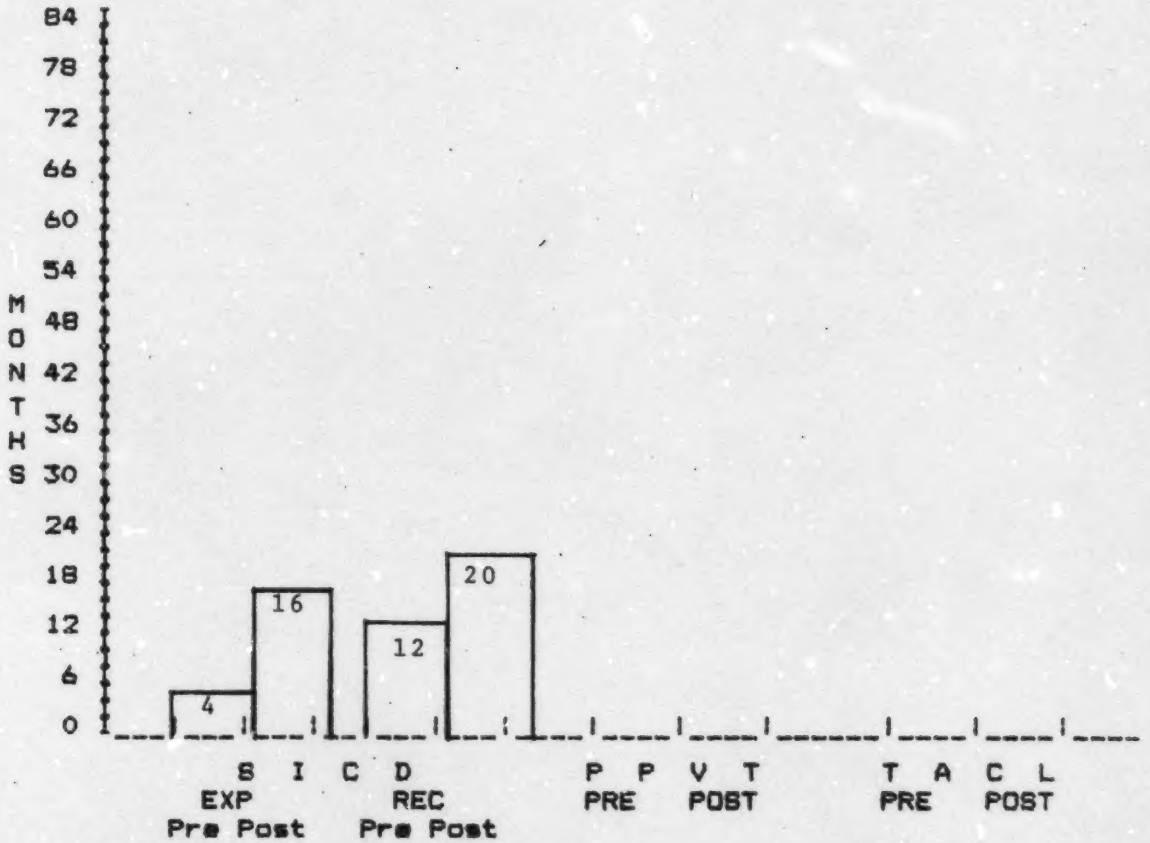
ID# _2_

CHRONOLOGICAL AGE 13_ SEX _F_

SEVERITY OF HEARING LOSS
UNAIDED 72_ AIDED _32

LENGTH OF INTERVENTION ___ MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT ___ THERAPIST ___



AAPS PRE ___ POST ___

- Deaf parents used sign language at home
- Low expectation levels of parents
- Missed many therapy sessions

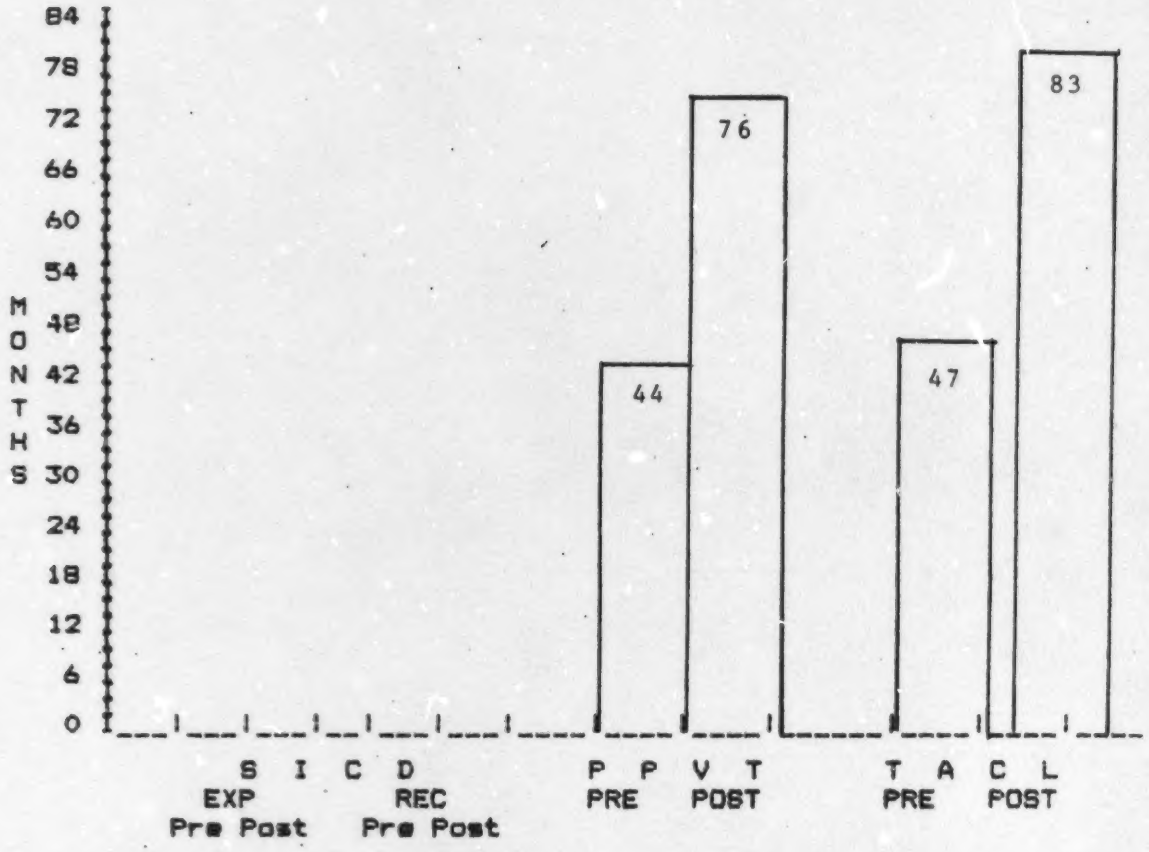
ID# 3

CHRONOLOGICAL AGE 55 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 48 AIDED 10

LENGTH OF INTERVENTION 15 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT ___ THERAPIST ___



AAPS PRE ___ POST 99

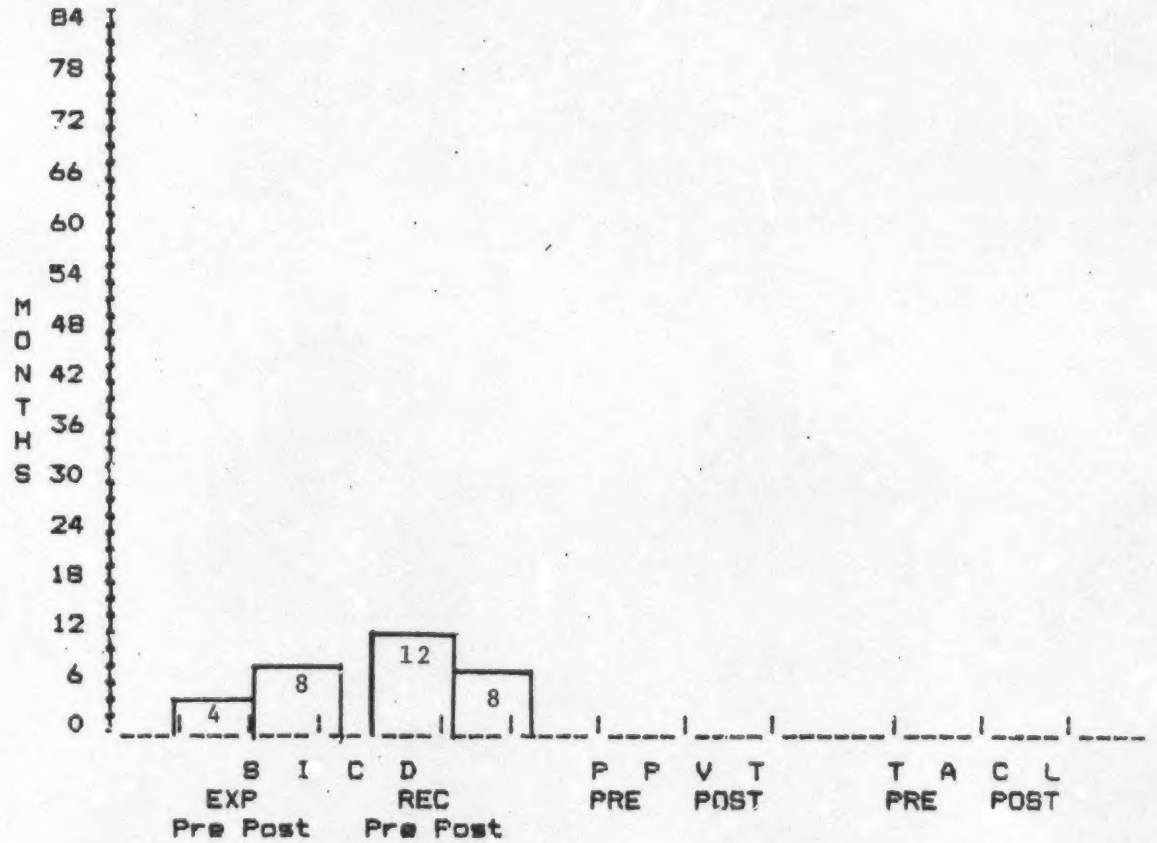
ID# _4_

CHRONOLOGICAL AGE 20_ SEX _M_

SEVERITY OF HEARING LOSS
UNAIDED _120 AIDED _120

LENGTH OF INTERVENTION _12 MAINSTREAMED _X_

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT ___ THERAPIST ___



AAPS PRE ___ POST ___

- Inconsistent amplification (aids lost - broken more than half of the time)
- Missed many therapy sessions
- No aided or unaided hearing could be determined
- Recurrent otitis media

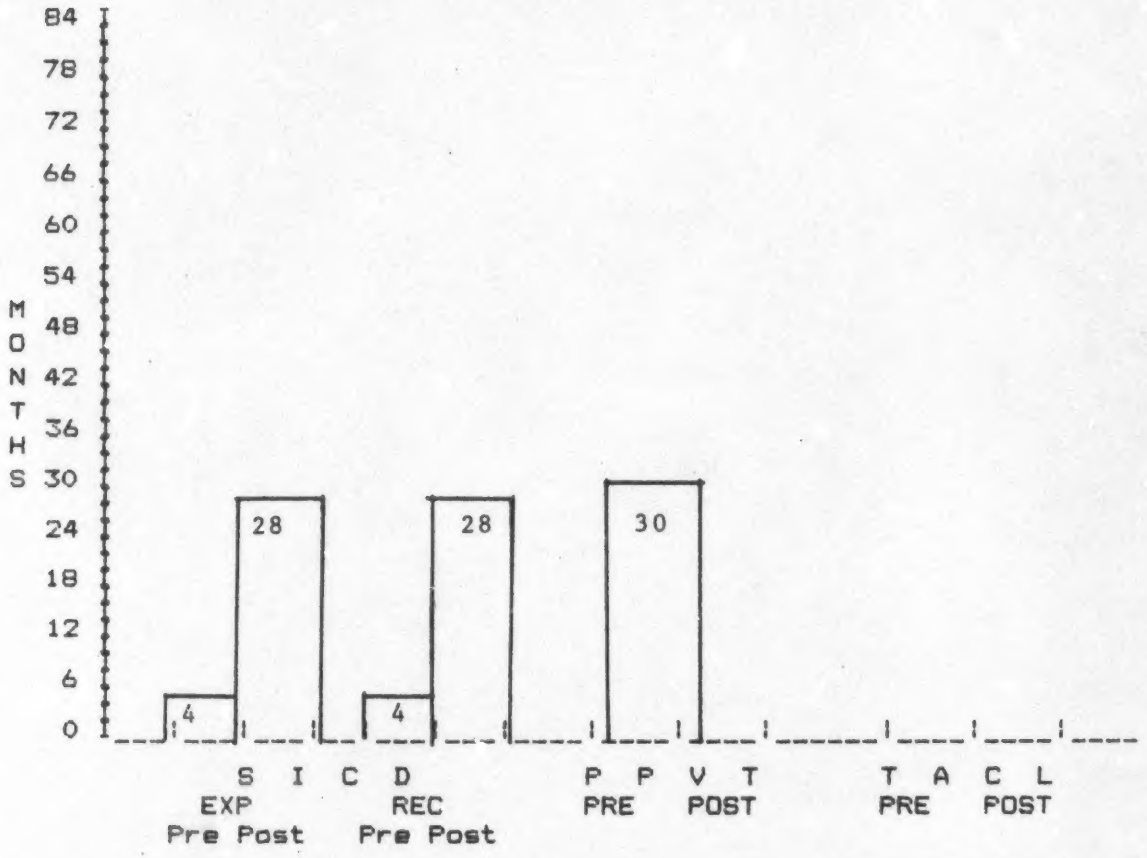
ID# 5

CHRONOLOGICAL AGE 6 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 69 AIDED 10

LENGTH OF INTERVENTION 24 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 1 THERAPIST 1



AAPS PRE ___ POST ___

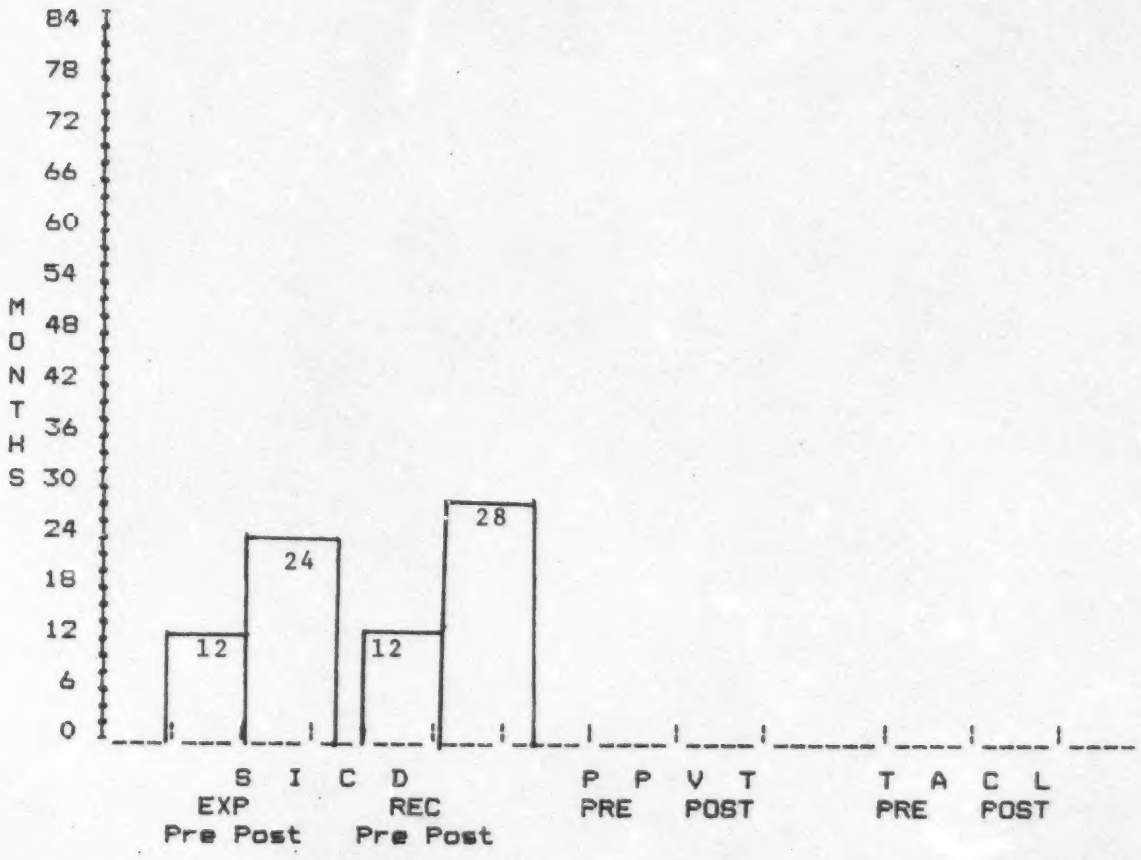
ID# 6

CHRONOLOGICAL AGE 22 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 48 AIDED 12

LENGTH OF INTERVENTION 10 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 4



AAPS PRE ___ POST ___

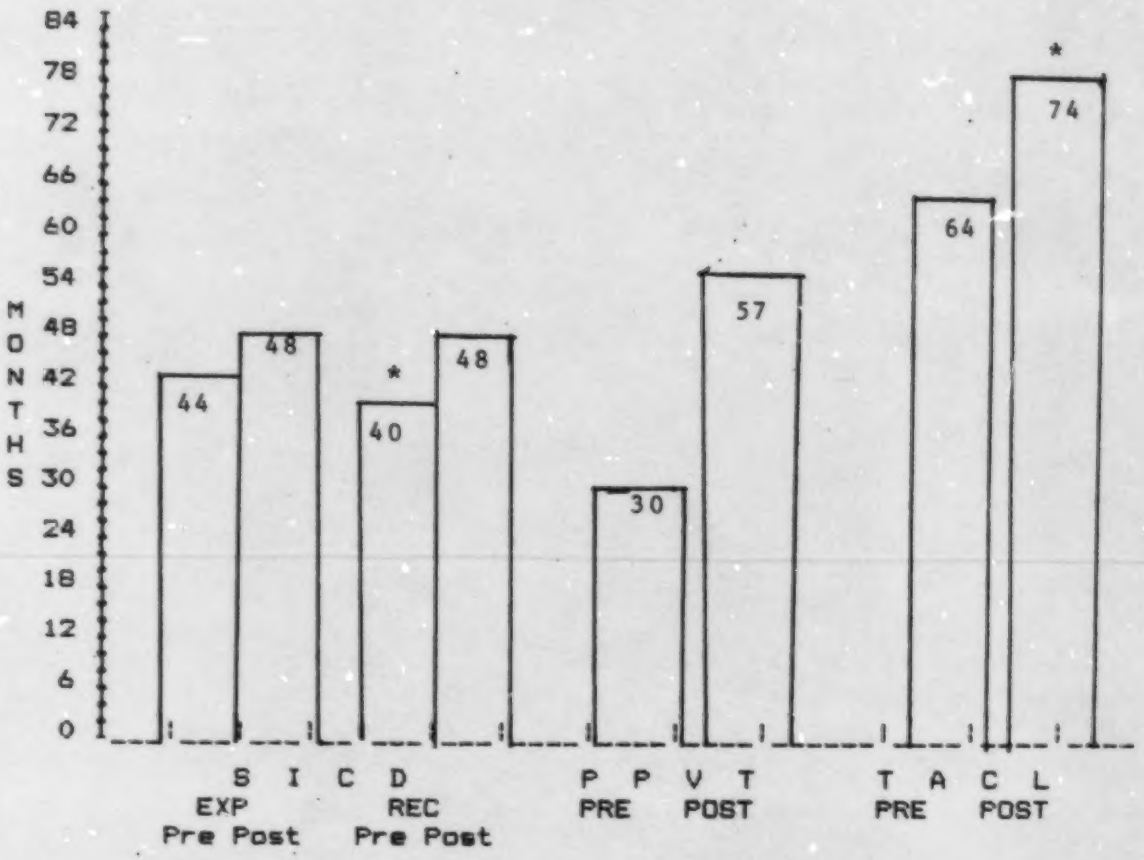
ID# 7

CHRONOLOGICAL AGE 57 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 40 AIDED 13

LENGTH OF INTERVENTION 30 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 5



AAPS PRE 89 POST ___

- Ceiling on SICD reached
- Frequent ear infections and nasal congestion
- suspected LD, extremely poor auditory memory
- multi-handicapped brother

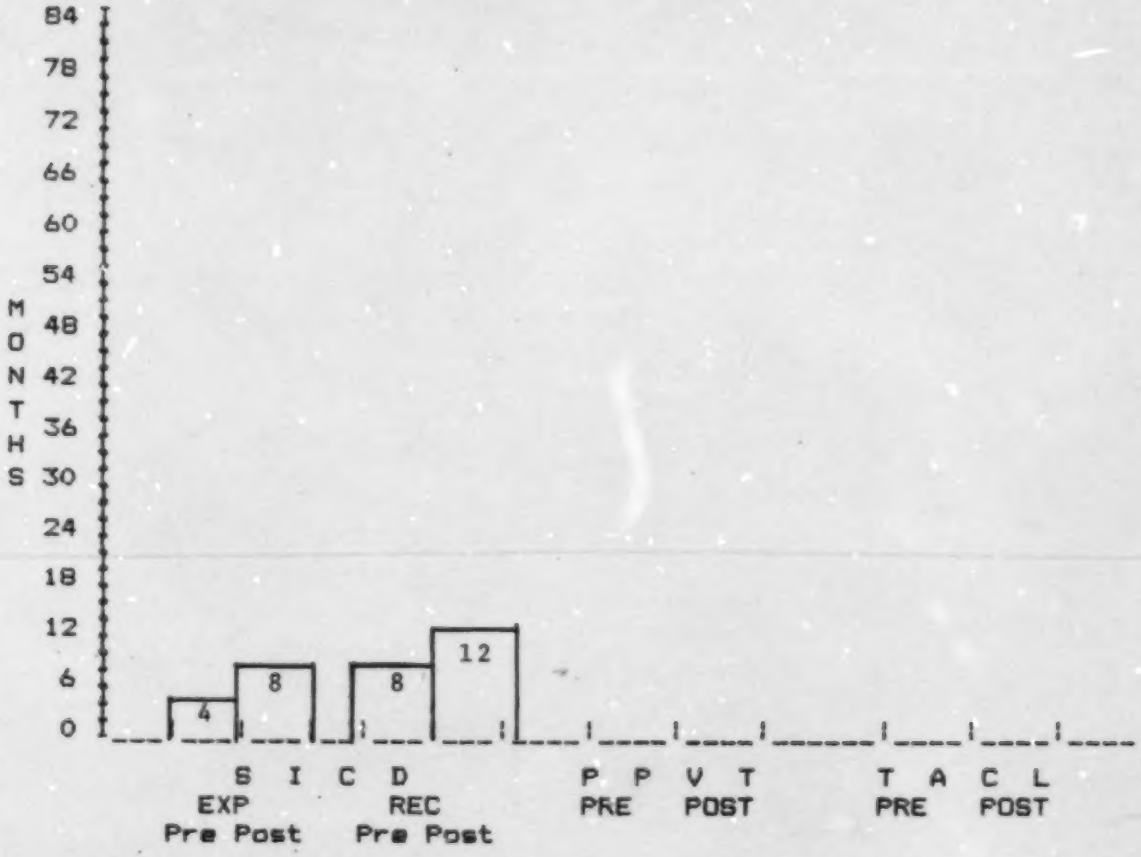
ID# 8

CHRONOLOGICAL AGE 16 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 120 AIDED 53

LENGTH OF INTERVENTION 22 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 5 THERAPIST 8



AAPS PRE ___ POST ___

- Parents' low expectation levels
- Parents' verbal stimulation was minimal

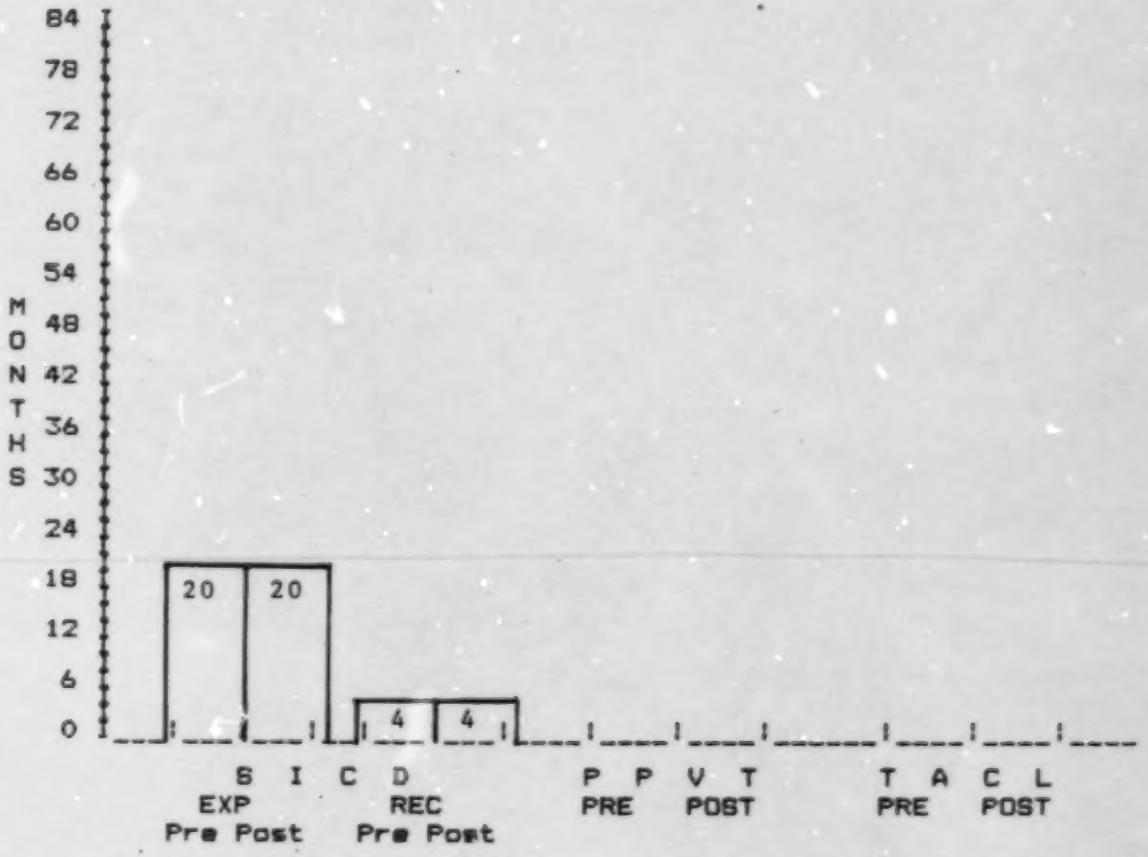
ID# 9

CHRONOLOGICAL AGE 41 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 120 AIDED 107

LENGTH OF INTERVENTION 5 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 3 THERAPIST 8



AAPS PRE ___ POST ___

- Hearing loss due to meningitis
- Only wore one aid on trial basis (inconsistent amplification
- Frequent missed sessions

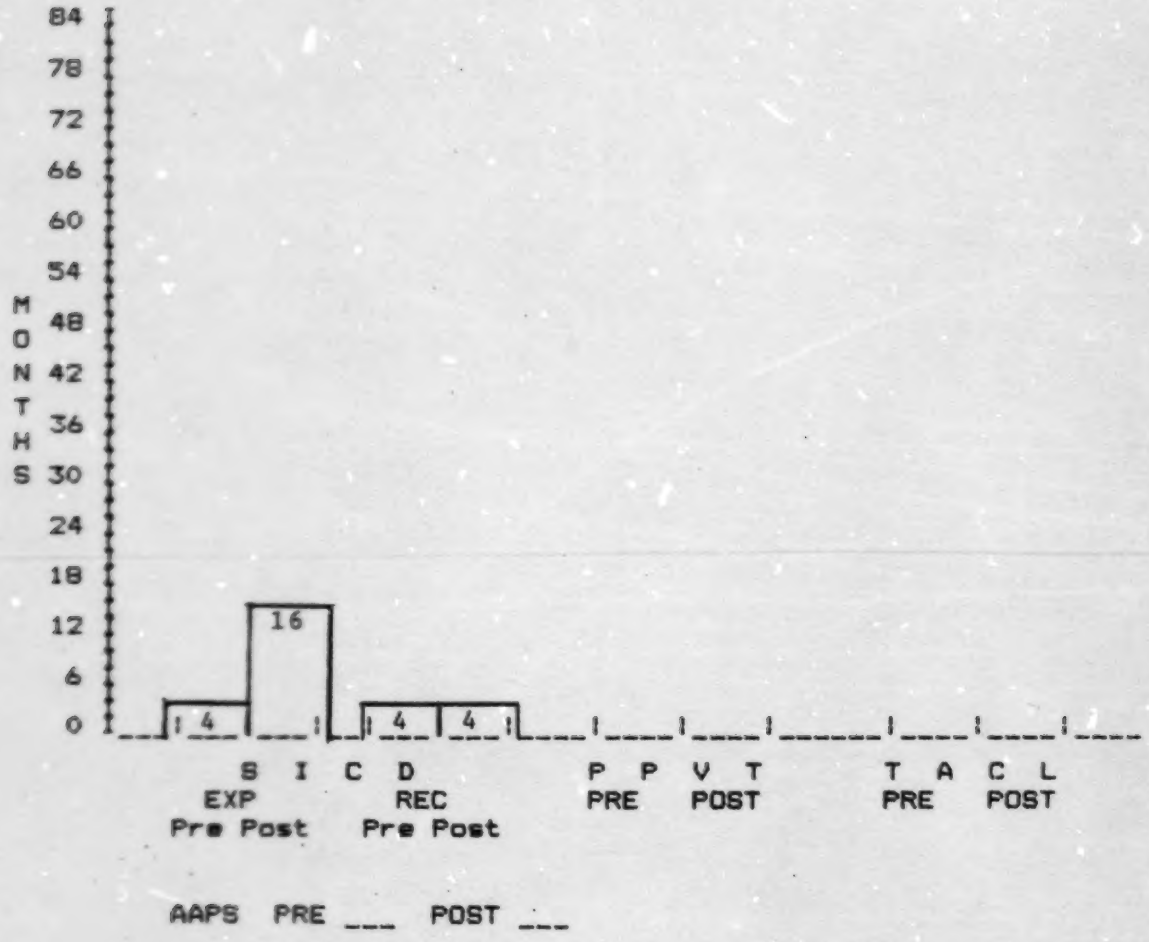
ID# 10

CHRONOLOGICAL AGE 14 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 107 AIDED 037

LENGTH OF INTERVENTION 12 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 4 THERAPIST 9



AAPS PRE ___ POST ___

- Premature and meningitic
- Neurological dysfunction suspected
- Parents both worked full-time, child in daycare center; generally low exposure to verbal stimulation.

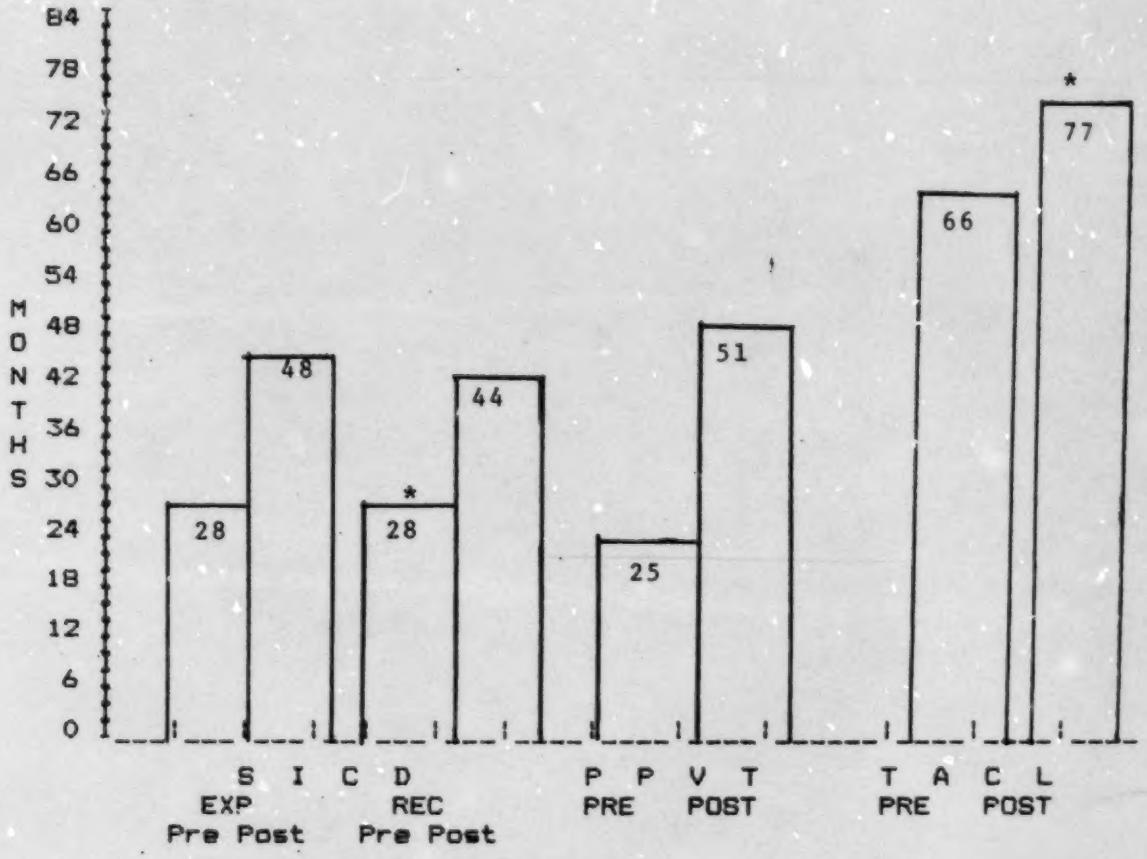
ID# 11

CHRONOLOGICAL AGE 48 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 45 AIDED 12

LENGTH OF INTERVENTION 16 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 3



AAPS PRE 84 POST 79

- History of recurrent Otitis Media

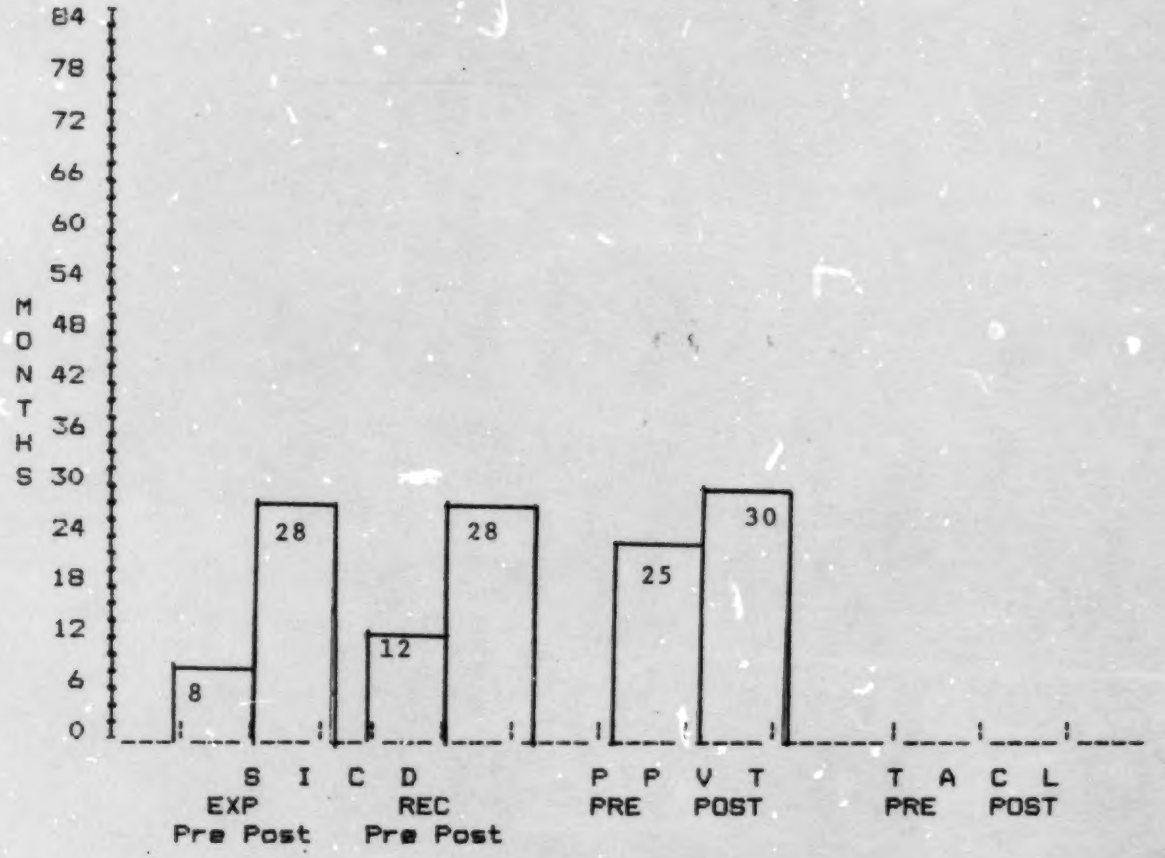
ID# 12

CHRONOLOGICAL AGE 26 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 93 AIDED 33

LENGTH OF INTERVENTION 22 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 4



AAPS PRE ___ POST ___

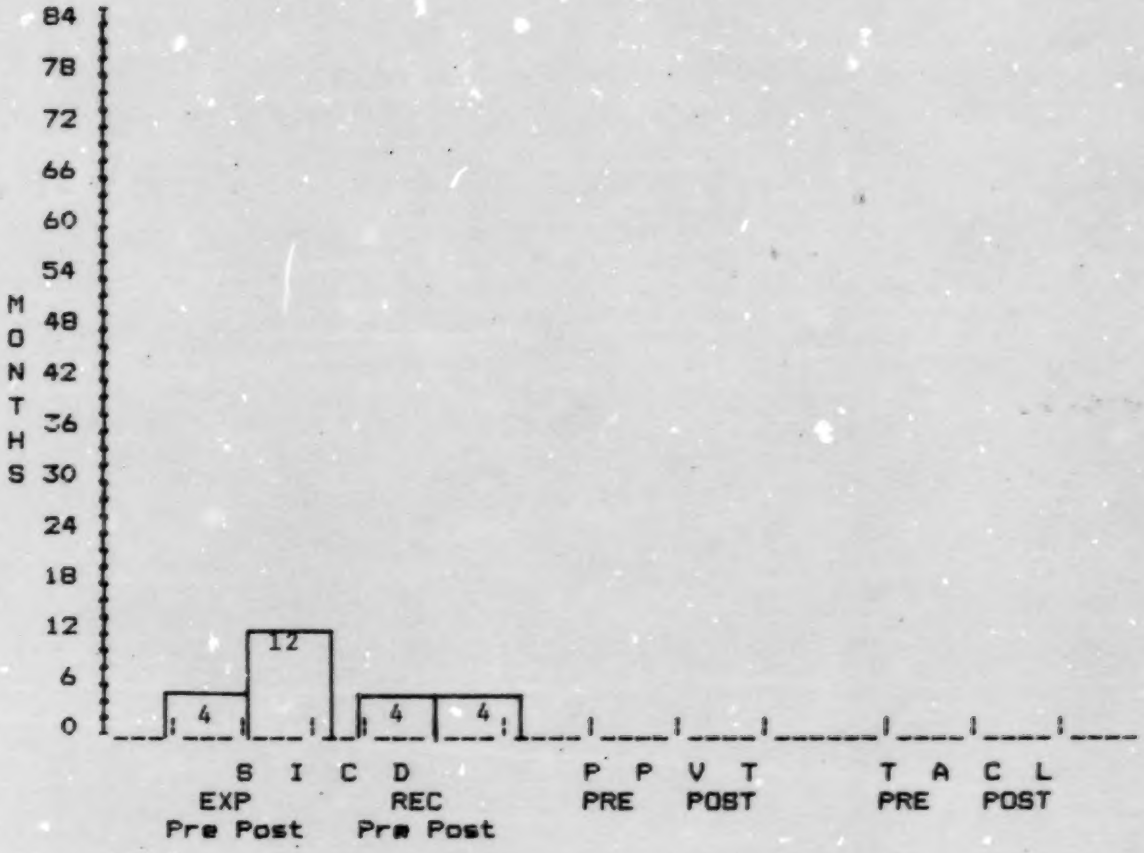
ID# 13

CHRONOLOGICAL AGE 10 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 55 AIDED 38

LENGTH OF INTERVENTION 4 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 3



AAPS PRE ___ POST ___

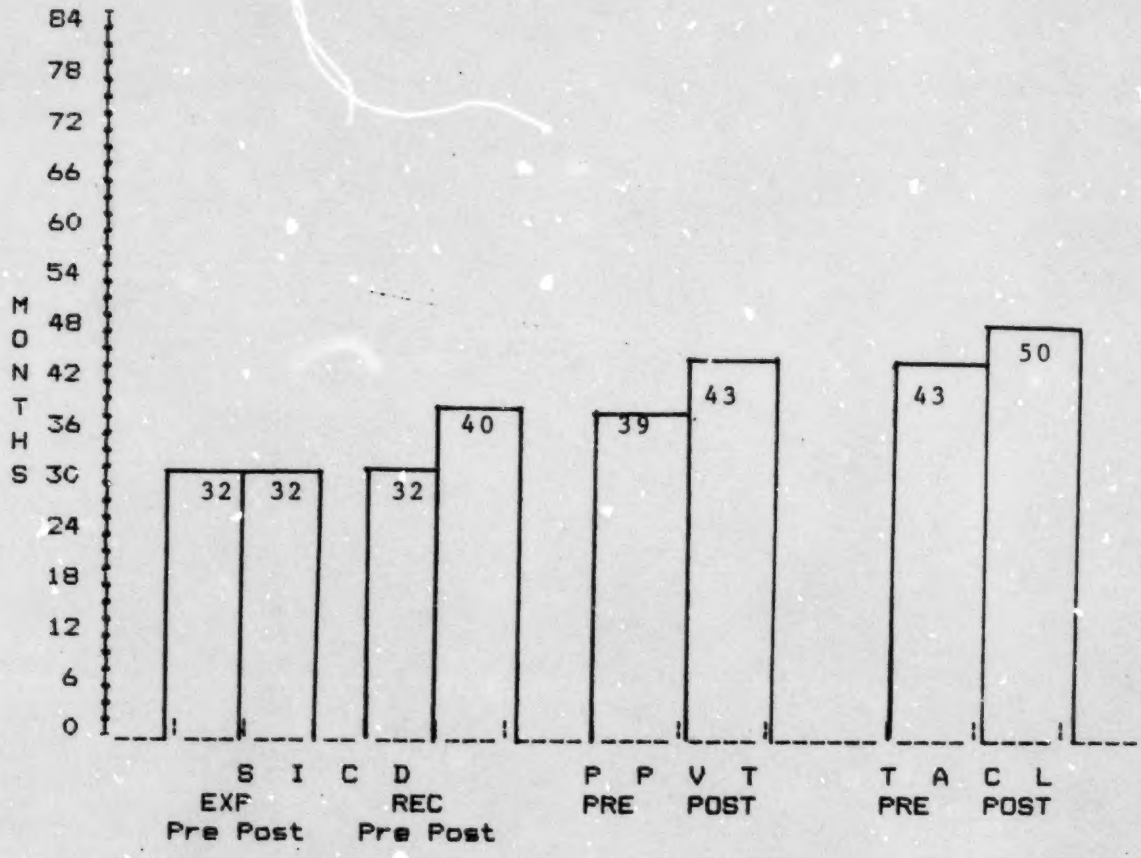
ID# 14

CHRONOLOGICAL AGE 31 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 23 AIDED 17

LENGTH OF INTERVENTION 22 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 3



AAPS PRE 49 POST ___

- Parents participated in project only once monthly (lived three hours away from project site)
- Father very uncooperative
- History of recurrent severe otitis media

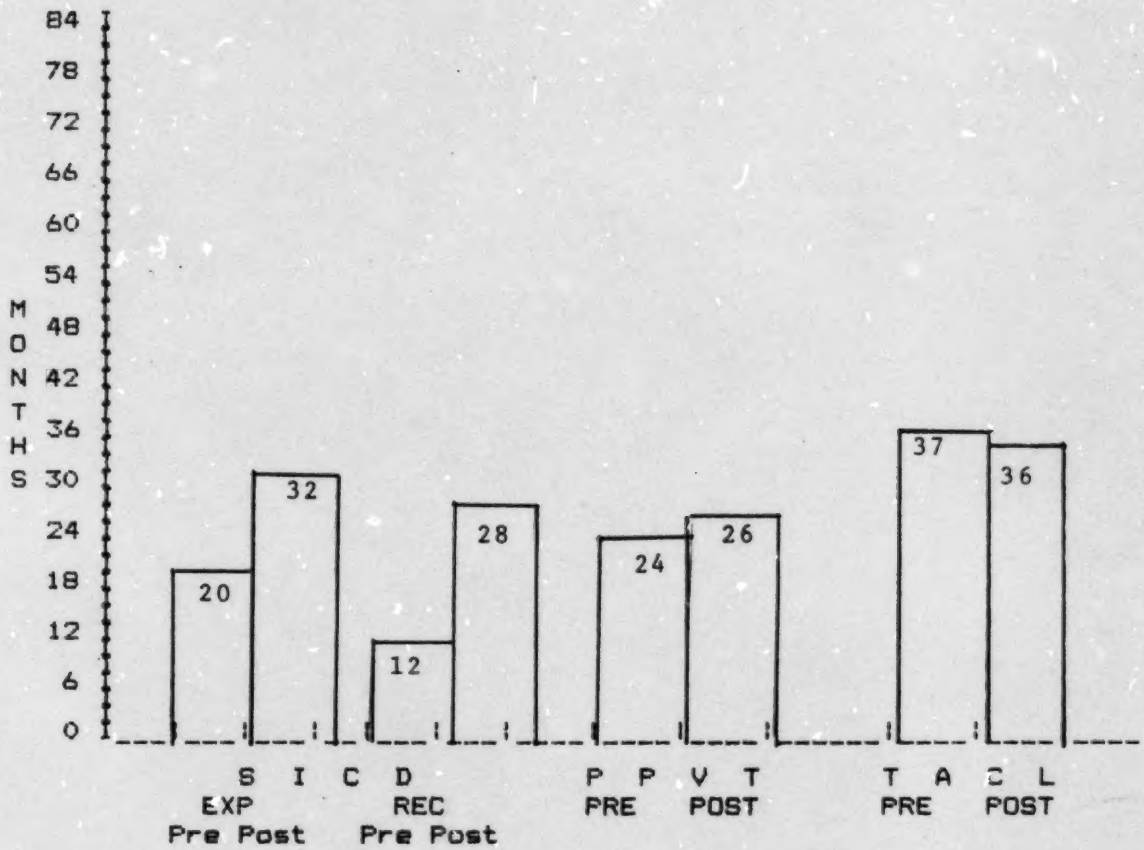
ID# 15

CHRONOLOGICAL AGE 41 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 92 AIDED 60

LENGTH OF INTERVENTION 24 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 5 THERAPIST 8



AAPS PRE 52 POST 73

- Came to Project from visual program
- Parents had low expectation levels for hearing.

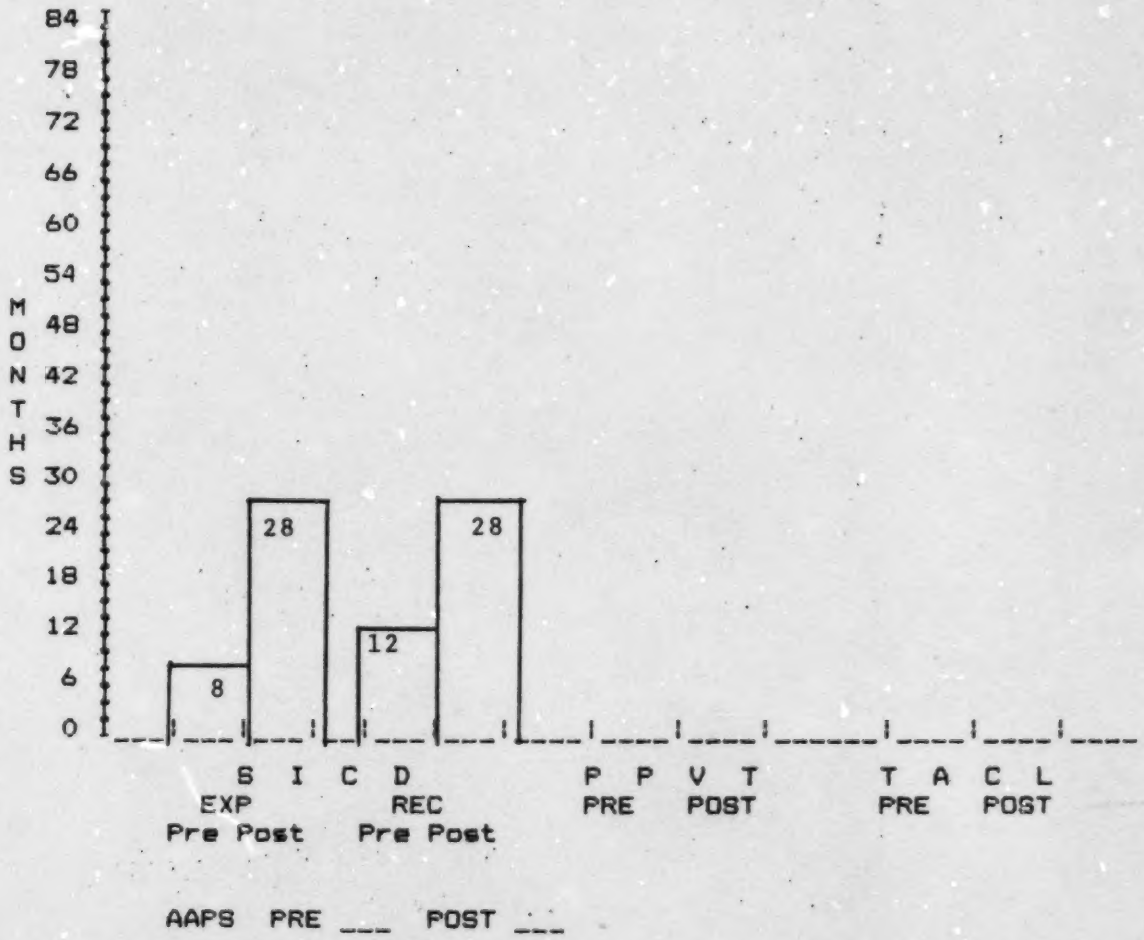
ID# 16

CHRONOLOGICAL AGE 8 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 35 AIDED 10

LENGTH OF INTERVENTION 13 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 3 THERAPIST 3



AAPS PRE ___ POST ___

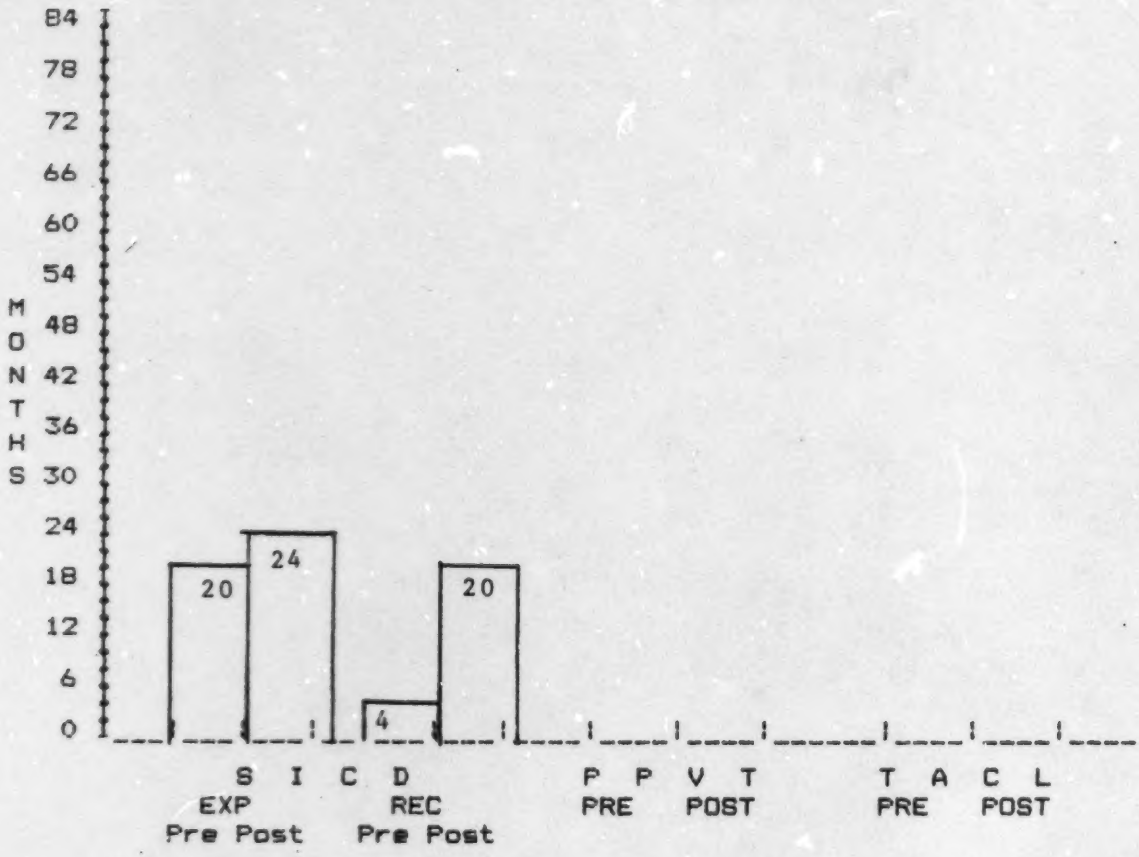
ID# 17

CHRONOLOGICAL AGE 39 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 117 AIDED 52

LENGTH OF INTERVENTION 2 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 4 THERAPIST 7



AAPS PRE ___ POST ___

- Rubella child (neurological dysfunction suspected)
- Visually handicapped
- Behavioral difficulties

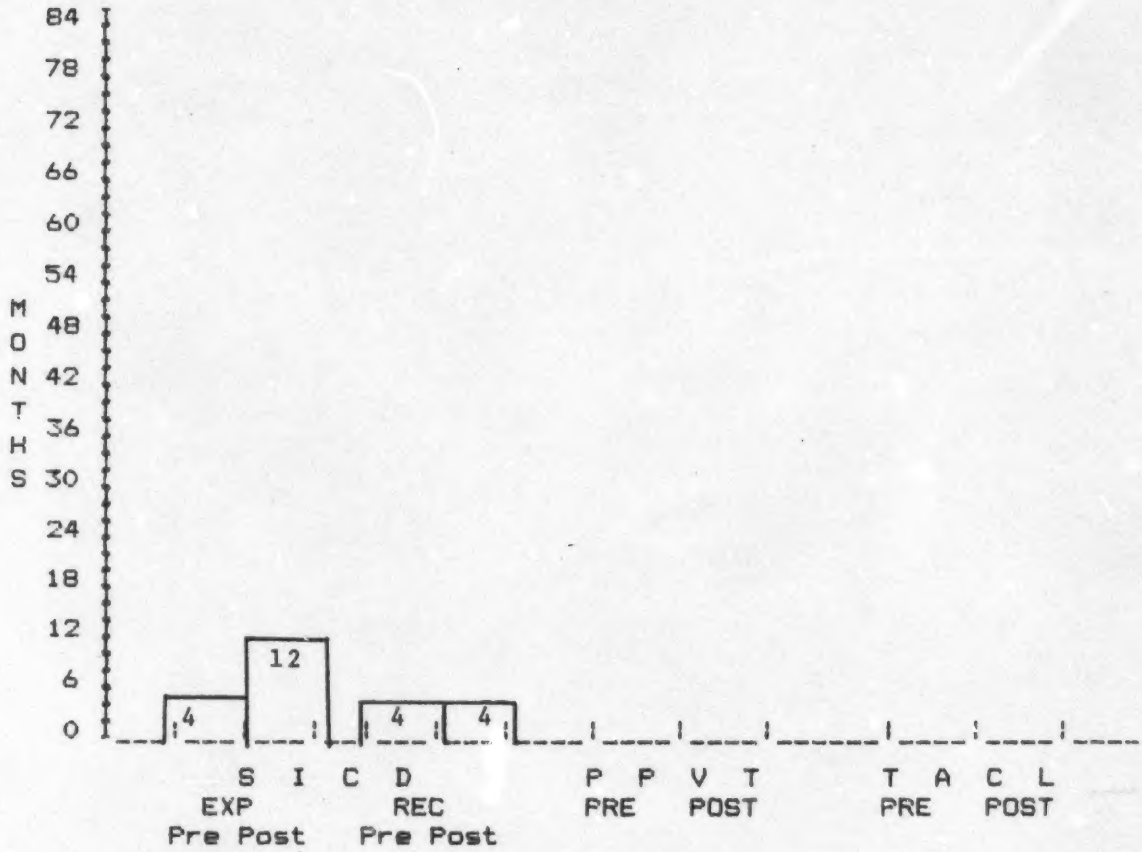
ID# 18

CHRONOLOGICAL AGE 17 SEX M

SEVERITY OF HEARING LOSS
NR ← UNAIDED 120 AIDED 112 → NR

LENGTH OF INTERVENTION 13 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 3 THERAPIST 3



AAPS PRE ___ POST ___

- Nearly fatal meningitis caused hearing loss.

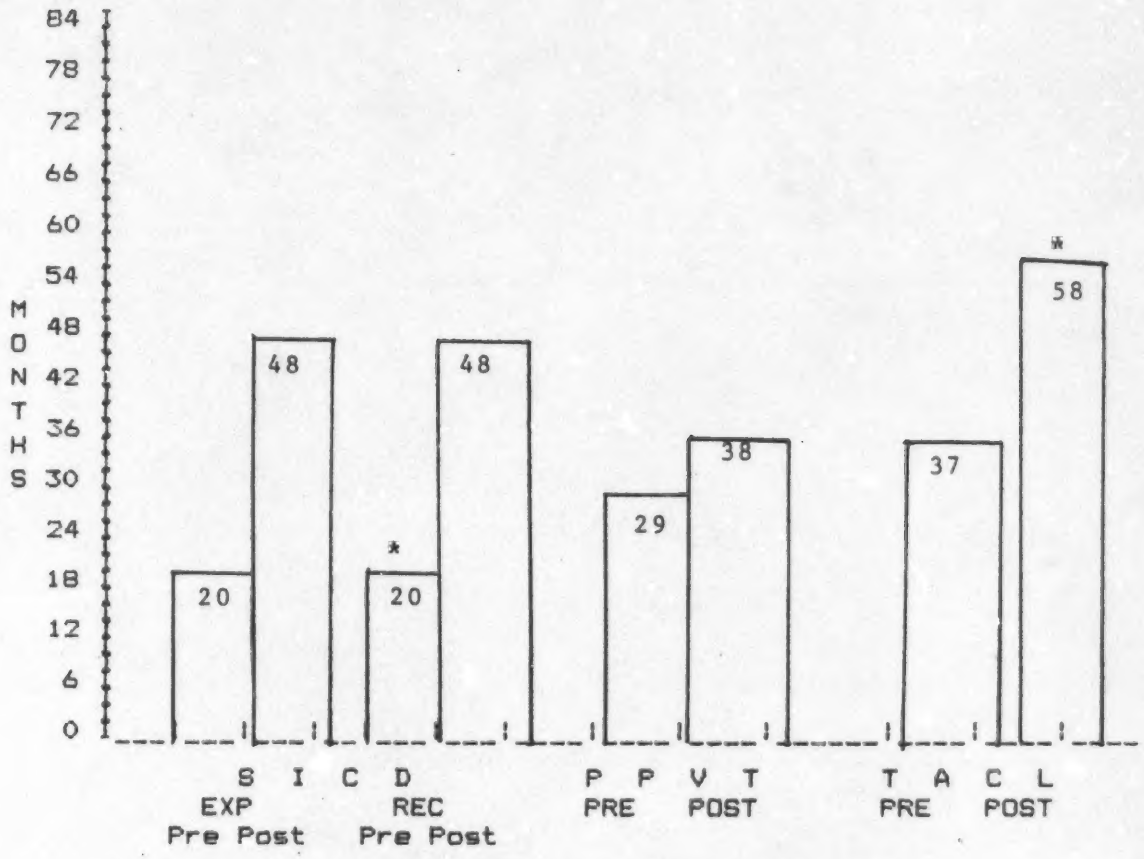
ID# 19

CHRONOLOGICAL AGE 22 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 77 AIDED 25

LENGTH OF INTERVENTION 35 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 3 THERAPIST 2



AAPS PRE 86 POST 95

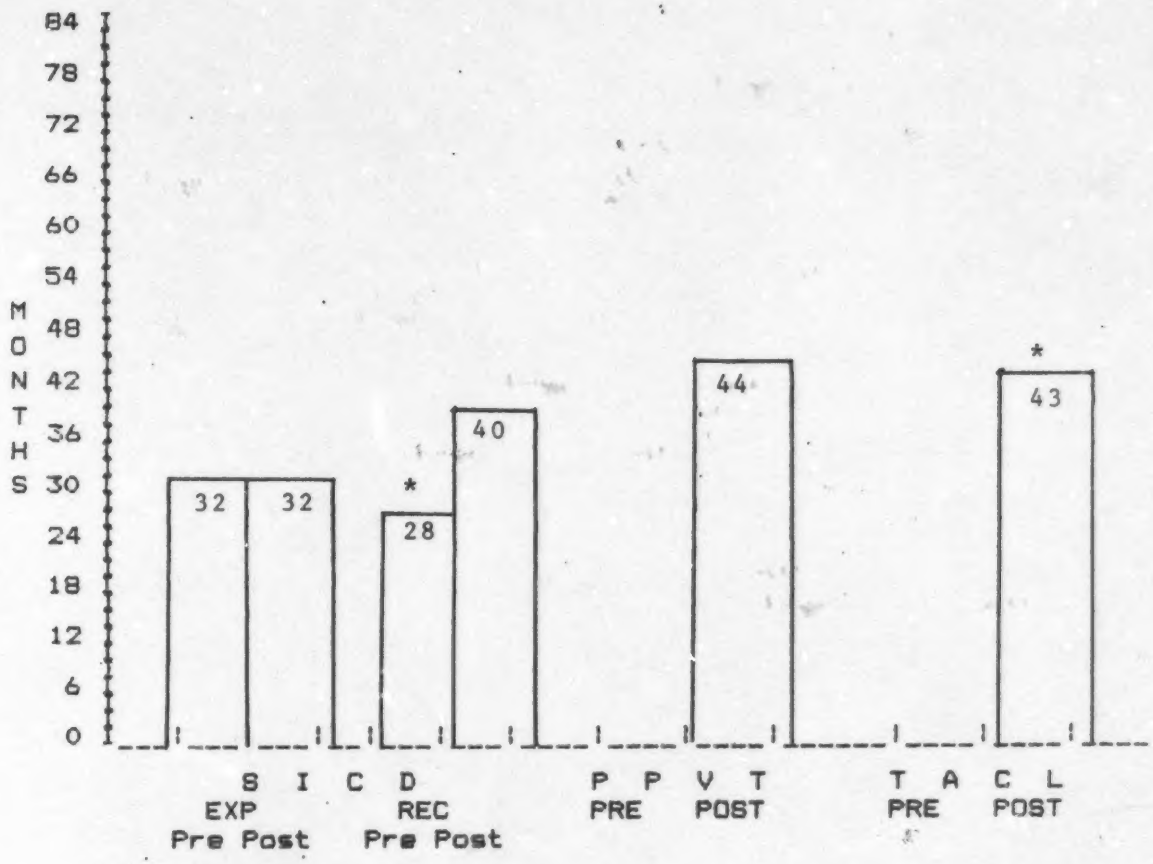
ID# 20

CHRONOLOGICAL AGE 41 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 37 AIDED 5

LENGTH OF INTERVENTION 3 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 3



AAPS PRE ___ POST ___

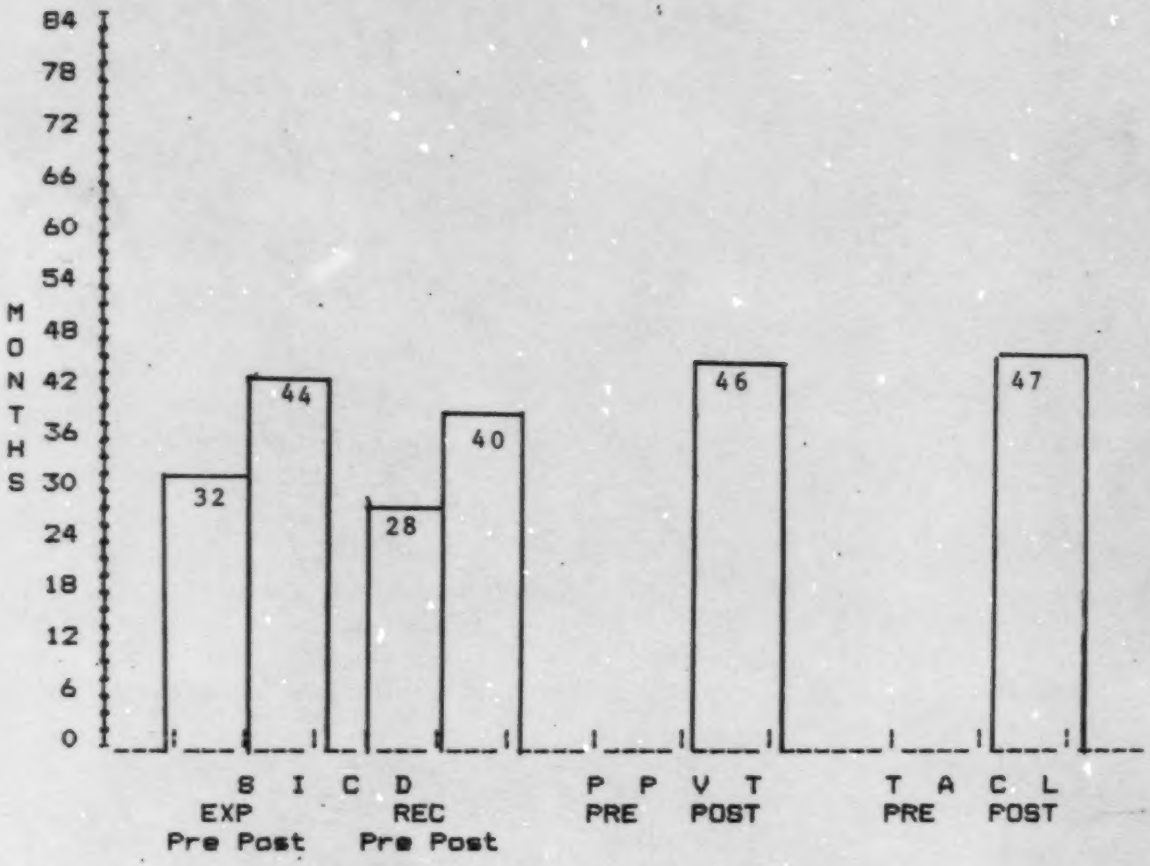
ID# 21

CHRONOLOGICAL AGE 41 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 42 AIDED 18

LENGTH OF INTERVENTION 3 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 3



AAPS PRE ___ POST ___

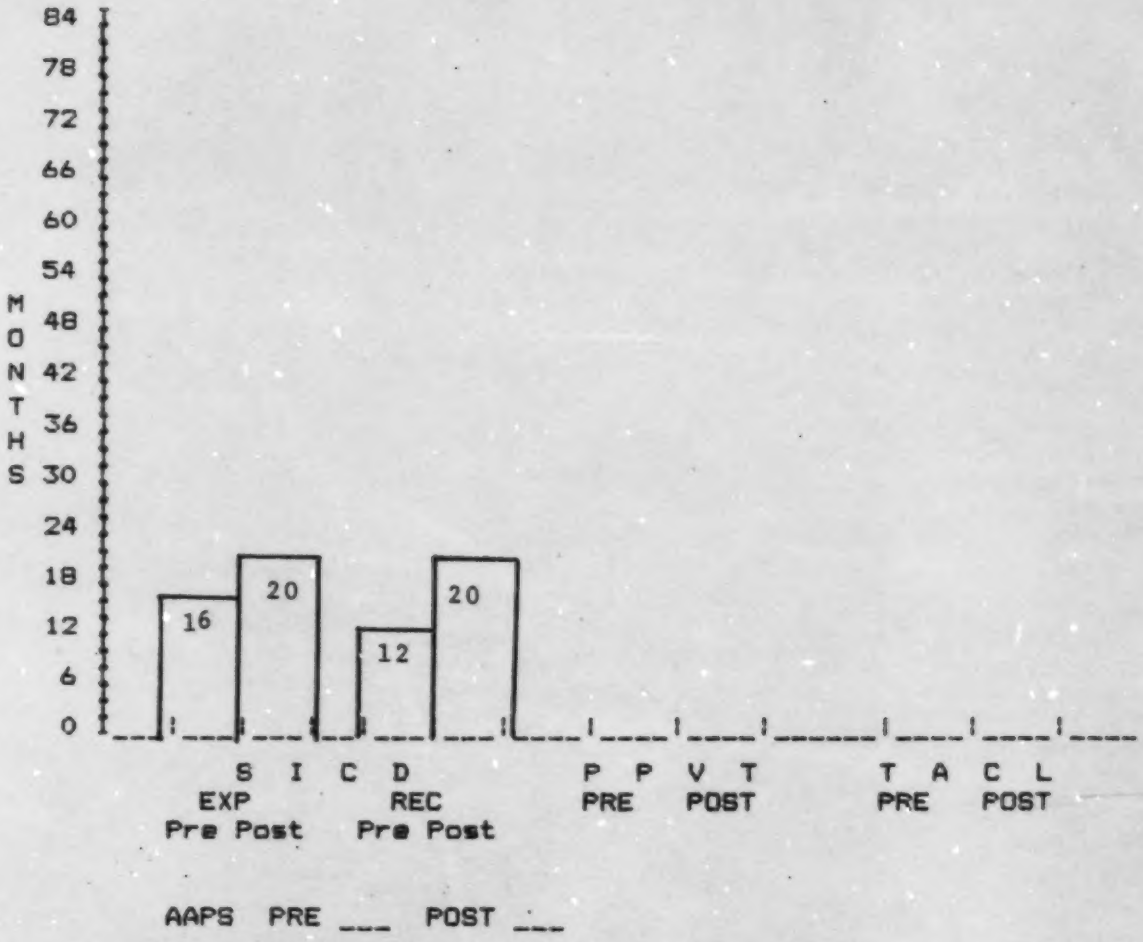
ID# 22

CHRONOLOGICAL AGE 24 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 98 AIDED 75

LENGTH OF INTERVENTION 13 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 6 THERAPIST 6



AAPS PRE ___ POST ___

- Suspected Cytomegalavirus; diagnosed hypertonia
- Inappropriate amplification
- After data compiled - child began wearing two high-powered aids. (Previously been wearing one moderately-powered aid.)
- Came to project from visual program. (TC)

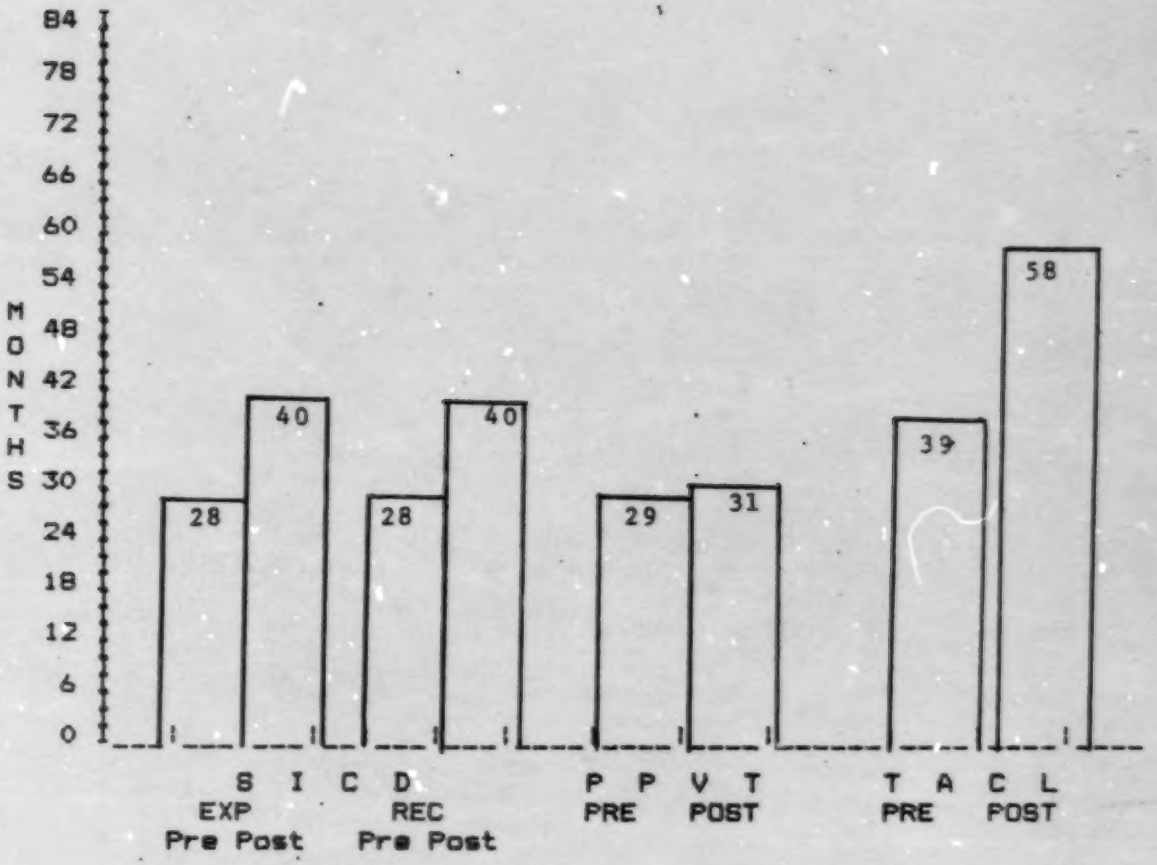
ID# 23

CHRONOLOGICAL AGE 35 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 83 AIDED 43

LENGTH OF INTERVENTION 33 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 2 THERAPIST 7



AAPS PRE 92 POST ___

- Suspected LD
- Inappropriate amplification - recently began wearing hi-powered aids
- Both parents working full-time
- Poor day care facilities (extreme sensory deprivation) prior to project enrollment

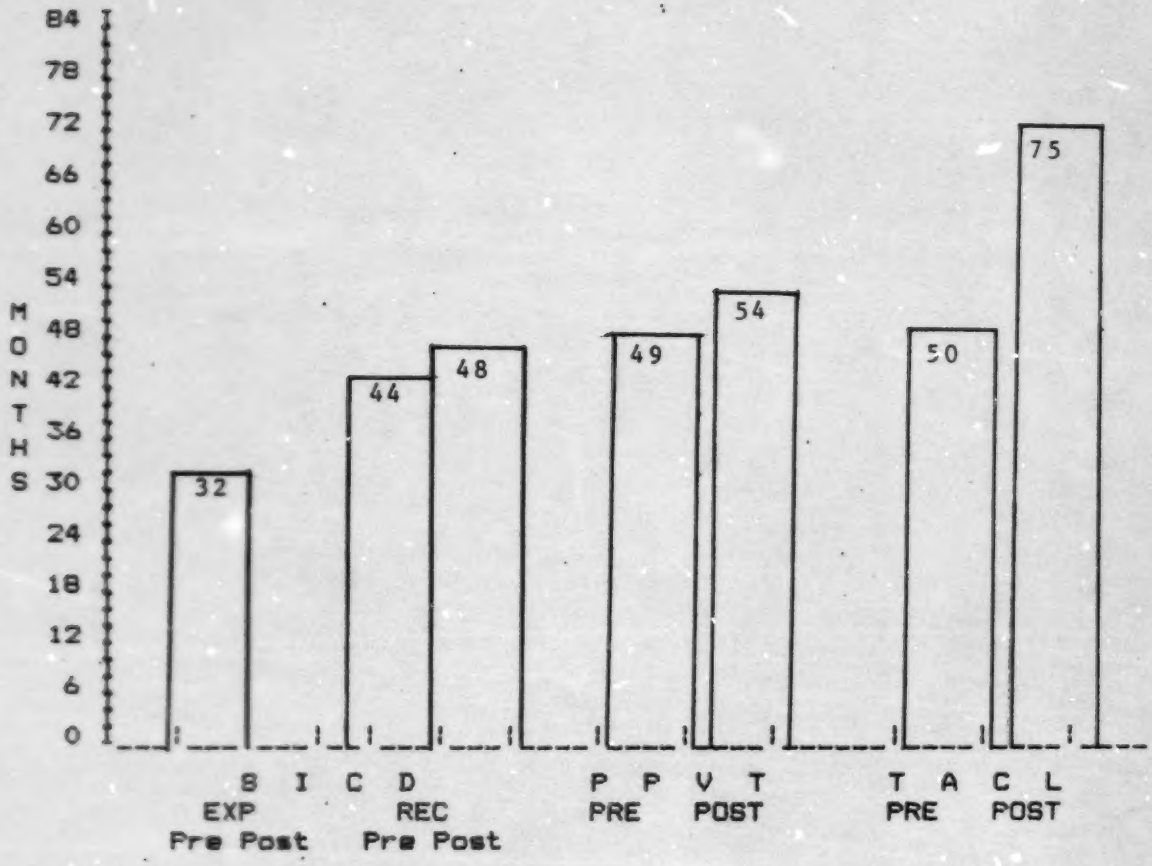
ID# 24

CHRONOLOGICAL AGE 54 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 37 AIDED 13

LENGTH OF INTERVENTION 4 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 4 THERAPIST 2



AAPS PRE 87 POST ___

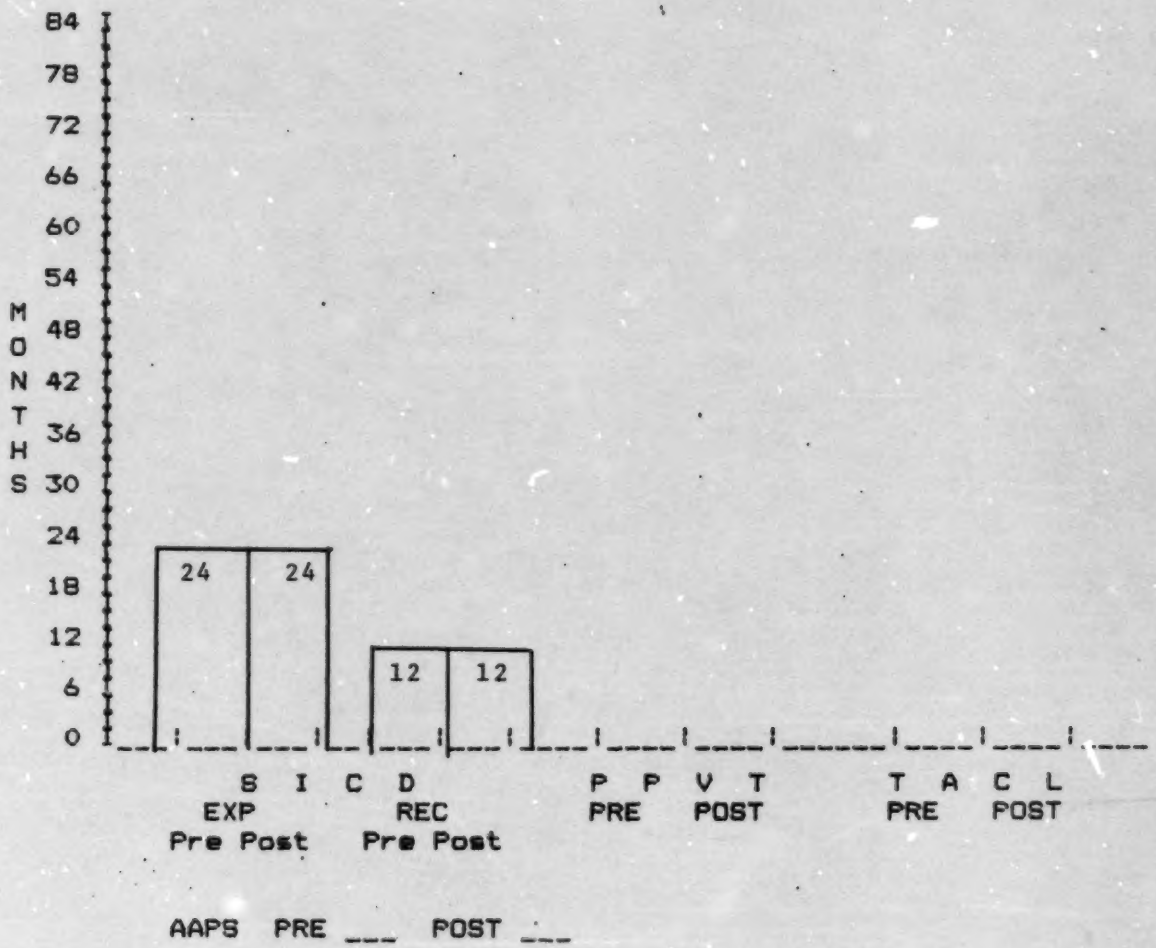
ID# 25

CHRONOLOBICAL AGE 30 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 65 AIDED 32

LENGTH OF INTERVENTION 7 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 5 THERAPIST 5



AAPS PRE ___ POST ___

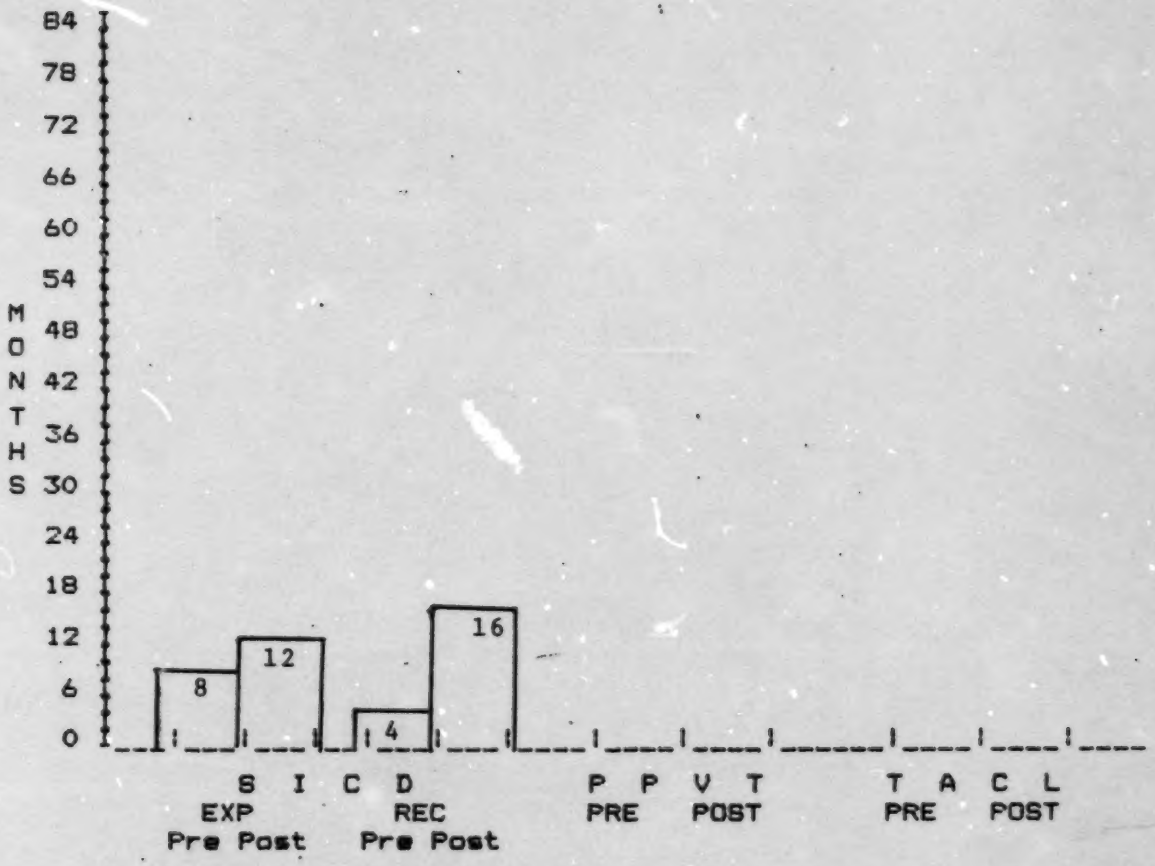
ID# 26

CHRONOLOGICAL AGE 28 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 73 AIDED 45

LENGTH OF INTERVENTION 2 MAINSTREAMED ---

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 4 THERAPIST 6



AAPS PRE --- POST ---

- Premature

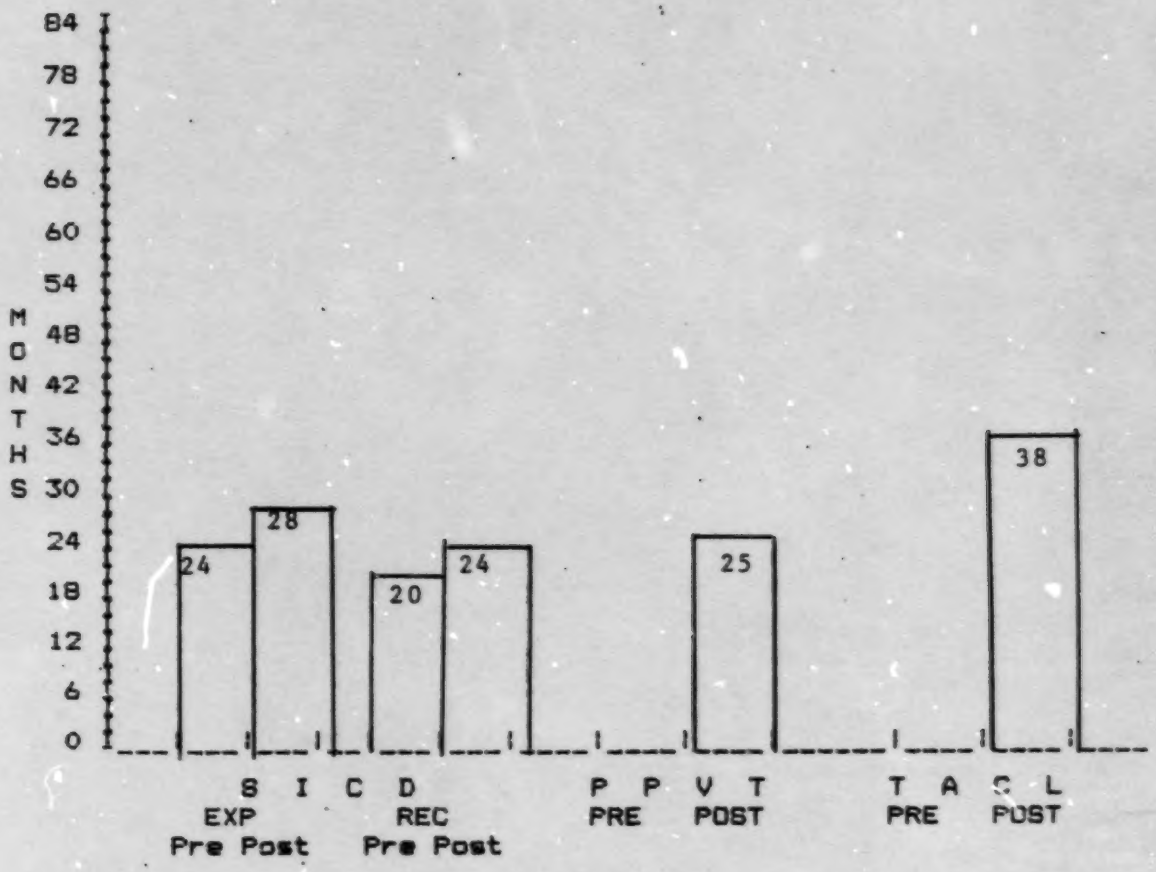
ID# 27

CHRONOLOGICAL AGE 46 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 100 AIDED 43

LENGTH OF INTERVENTION 23 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 5 THERAPIST 9



AAPS PRE 77 POST 81

- In multi-handicapped class prior to Project enrollment here; TC was used.

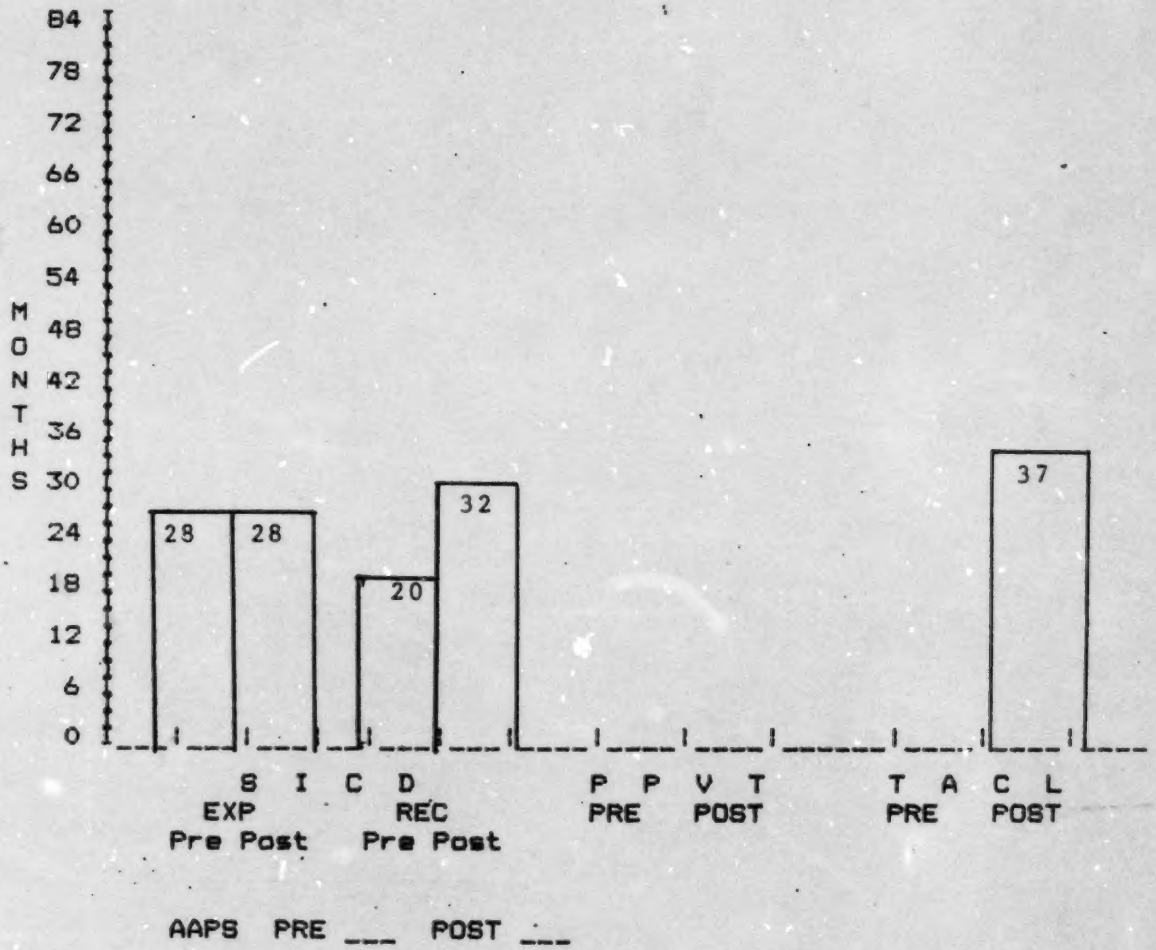
ID# 28

CHRONOLOGICAL AGE 45 SEX M

SEVERITY OF HEARING LOSS
UNAIDED 87 AIDED 48

LENGTH OF INTERVENTION 7 MAINSTREAMED X

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 5 THERAPIST 4



AAPS PRE ___ POST ___

- Previously in TC class with multi-handicapped children.

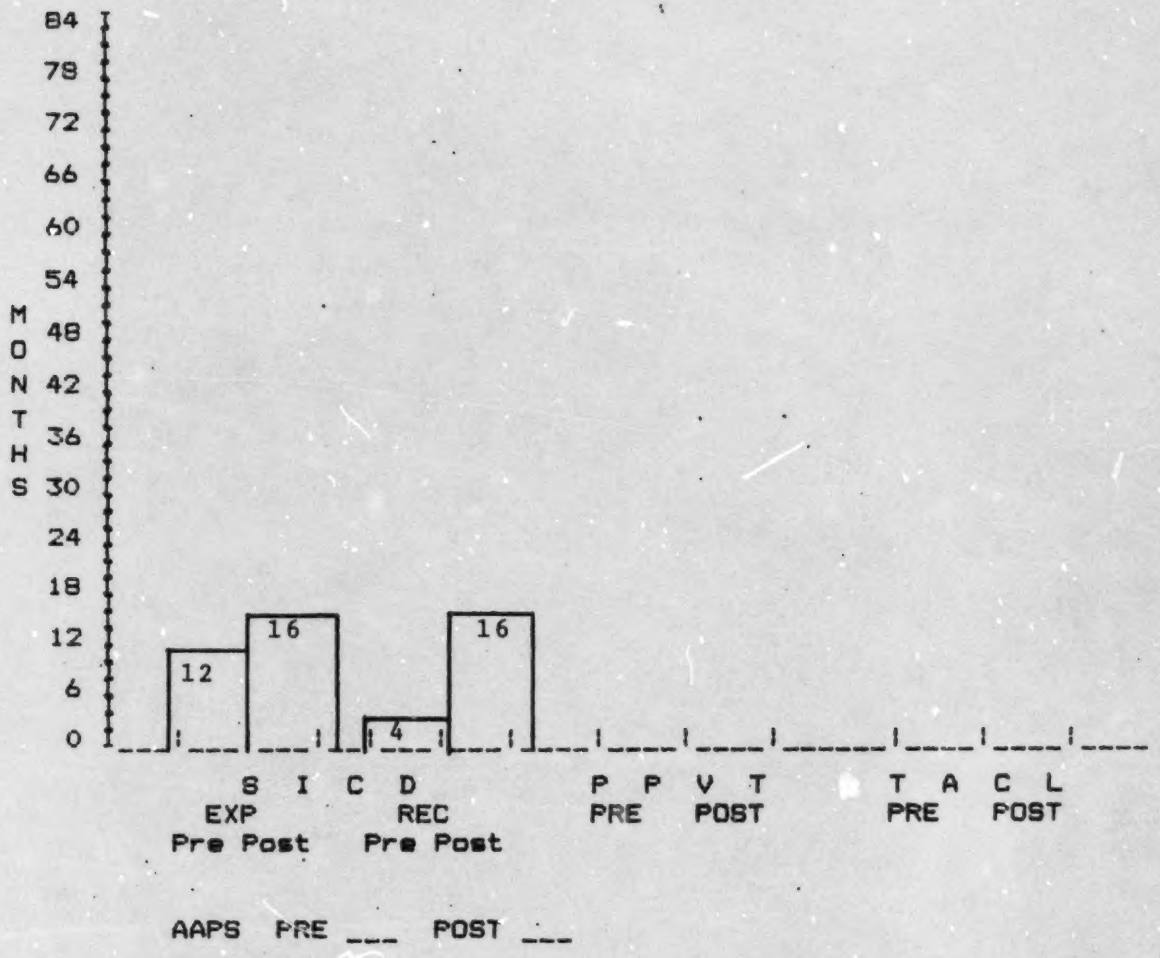
ID# 29

CHRONOLOGICAL AGE 14 SEX F

SEVERITY OF HEARING LOSS
UNAIDED 120 AIDED 40

LENGTH OF INTERVENTION 13 MAINSTREAMED ___

ESTIMATE OF CHILD'S HANDICAP
(No Handicap=1 Serious Handicap=10)
PARENT 3 THERAPIST 6



AAPS PRE ___ POST ___

- Only comes to Project site twice monthly (parents live two hours drive from site)
- Both parents work - child stays with gesturing grandmother all day.

To determine the effect of amplification on the subjects' unaided scores, a t-test was performed comparing the unaided and aided PTA score for 29 children. The results presented in Table I indicate that there was a significant difference between the group scores, with the aided scores (X=39.41 SD=30.84) being much better and falling within the acceptable hearing range of a normal to mild hearing loss (0-40 dB).

TABLE I

A Comparison of 29 Subjects Ability to Hear Sound Frequencies Aided and Unaided.

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	CORR.	2-TAIL PROB.	t VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
AID	30	39.6000	29.978	5.473	-36.5667	20.130	3.675	.784	.000	-9.95	29	.000
UNAID		76.1667	31.215	5.699								

To further emphasize the improvement of aided hearing, Table II illustrates the improvement, by categories, for the 29 subjects. The percentage of subjects in each category who improved by at least one category is also illustrated. It should be noted that, of the 11 subjects with profound losses, 3 attained an aided score within the mild category; an additional 4 subjects fell within the moderate category when aided.

Table II

Aided

UNAIDED		91-NR Profound	61-90 Severe	41-60 Moderate	21-40 Mild	0-20 Normal	% Improved By 1 or more Categories
Profound	11	3	1	4	3		73
Severe	8			3	4	1	100
Moderate	5				1	4	100
Mild	5					5	100
	29						

Frequency Distributions on each of the variables are discussed in the following tables:

TABLE III

CHRONAGE Month	FREQ	ADJ PCT	CUM PCT	Month	FREQ	ADJ PCT	CUM PCT	Month	FREQ	ADJ PCT	CUM PCT
1.	1	3	3	24.	1	3	36	41.	4	12	73
6.	1	3	6	26.	1	3	39	44.	1	3	76
8.	1	3	9	28.	1	3	42	49.	1	3	79
10.	1	3	12	29.	1	3	45	54.	2	6	85
13.	1	3	15	30.	1	3	48	58.	1	3	88
14.	1	3	18	31.	1	3	52	64.	1	3	91
17.	1	3	21	32.	1	3	55	65.	1	3	94
20.	1	3	24	33.	1	3	58	67.	1	3	97
22.	2	6	33	39.	1	3	61	69.	1	3	100

VALID CASES 33 MISSING CASES 0

TABLE IV

SEX

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
MALE	1.	20	60.6	60.6	60.6
FEMALE	2.	13	39.4	39.4	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 29

TABLE V

UNAID "HL"	FREQ	ADJ PCT	CUM PCT	"HL"	FREQ	ADJ PCT	CUM PCT	"HL"	FREQ	ADJ PCT	CUM PCT
23.	1	3	3	55.	1	3	37	92.	1	3	67
35.	1	3	7	65.	1	3	40	93.	1	3	70
37.	1	3	10	75.	1	3	43	98.	1	3	73
40.	1	3	13	80.	1	3	47	100.	1	3	77
43.	1	3	17	85.	1	3	50	107.	1	3	80
45.	1	3	20	87.	1	3	53	117.	1	3	83
48.	2	7	33	89.	1	3	57	120.	5	17	100

M I S S I N G D A T A

CODE	FREQ
0.	3

CODE	FREQ

VALID CASES 30 MISSING CASES 3

BEST COPY AVAILABLE

TABLE X

THEREST THERAPIST ESTIMATE OF CHILD'S HANDICAP

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
NOT A HANDICAP	1.	1	3.0	3.7	3.7
	2.	3	9.1	11.1	14.8
	3.	8	24.2	29.6	44.4
	4.	3	9.1	11.1	55.6
	5.	2	6.1	7.4	63.0
	6.	3	9.1	11.1	74.1
	7.	2	6.1	7.4	81.5
	8.	3	9.1	11.1	92.6
	9.	2	6.1	7.4	100.0
	0.	6	18.2	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 27 MISSING CASES 6

TABLE XI

SICDEXPP SICD EXPRESSIVE PRE

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	4.	8	24.2	25.0	25.0
	8.	3	9.1	9.4	34.4
	12.	2	6.1	6.3	40.6
	16.	2	6.1	6.3	46.9
	20.	5	15.2	15.6	62.5
	24.	2	6.1	6.3	68.8
	28.	3	9.1	9.4	78.1
	32.	5	15.2	15.6	93.8
	36.	1	3.0	3.1	96.9
	44.	1	3.0	3.1	100.0
	0.	1	3.0	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 32 MISSING CASES 1

TABLE XII

SICDEXPS SICD EXPRESSIVE POST

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	8.	2	6.1	7.1	7.1
	12.	3	9.1	10.7	17.9
	16.	3	9.1	10.7	28.6
	20.	3	9.1	10.7	39.3
	24.	3	9.1	10.7	50.0
	28.	5	15.2	17.9	67.9
	32.	3	9.1	10.7	78.6
	36.	1	3.0	3.6	82.1
	40.	1	3.0	3.6	85.7
	44.	1	3.0	3.6	89.3
	48.	3	9.1	10.7	100.0
	0.	5	15.2	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 28 MISSING CASES 5

BEST COPY AVAILABLE

TABLE XIII

SICDREPR SICD RECEPTIVE PRE

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	4.	9	27.3	28.1	28.1
	8.	1	3.0	3.1	31.3
	12.	8	24.2	25.0	56.3
	16.	1	3.0	3.1	59.4
	20.	3	9.1	9.4	68.8
	28.	4	12.1	12.5	81.3
	29.	1	3.0	3.1	84.4
	32.	3	9.1	9.4	93.8
	40.	1	3.0	3.1	96.9
	44.	1	3.0	3.1	100.0
	0.	1	3.0	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 32 MISSING CASES 1

TABLE XIV

SICDREPS SICD RECEPTIVE POST

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	4.	4	12.1	13.8	13.8
	8.	1	3.0	3.4	17.2
	12.	2	6.1	6.9	24.1
	16.	3	9.1	10.3	34.5
	20.	3	9.1	10.3	44.8
	24.	1	3.0	3.4	48.3
	28.	5	15.2	17.2	65.5
	32.	2	6.1	6.9	72.4
	40.	4	12.1	13.8	86.2
	44.	1	3.0	3.4	89.7
	48.	3	9.1	10.3	100.0
	0.	4	12.1	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 29 MISSING CASES 4

TABLE XV

PPVTPRE PEABODY PVT PRE

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	24.	1	3.0	8.3	8.3
	25.	2	6.1	16.7	25.0
	29.	3	9.1	25.0	50.0
	30.	2	6.1	16.7	66.7
	39.	1	3.0	8.3	75.0
	44.	1	3.0	8.3	83.3
	49.	1	3.0	8.3	91.7
	64.	1	3.0	8.3	100.0
	0.	21	63.6	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 12 MISSING CASES 21

BEST COPY AVAILABLE

TABLE XVI

PPVTPOST PEABODY PVT POST

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	25.	1	3.0	7.7	7.7
	26.	1	3.0	7.7	15.4
	30.	2	6.1	15.4	30.8
	31.	1	3.0	7.7	38.5
	37.	1	3.0	7.7	46.2
	43.	1	3.0	7.7	53.8
	44.	1	3.0	7.7	61.5
	46.	1	3.0	7.7	69.2
	51.	1	3.0	7.7	76.9
	54.	1	3.0	7.7	84.6
	57.	1	3.0	7.7	92.3
	76.	1	3.0	7.7	100.0
	0.	20	60.6	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 13 MISSING CASES 20

TABLE XVII

TACLPRE

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	37.	2	6.1	22.2	22.2
	39.	1	3.0	11.1	33.3
	43.	1	3.0	11.1	44.4
	47.	1	3.0	11.1	55.6
	50.	1	3.0	11.1	66.7
	64.	1	3.0	11.1	77.8
	66.	1	3.0	11.1	88.9
	83.	1	3.0	11.1	100.0
	0.	24	72.7	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 9 MISSING CASES 24

TABLE XVIII

TACLPOST

CATEGORY LABEL	MONTHS	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	36.	1	3.0	8.3	8.3
	37.	1	3.0	8.3	16.7
	38.	1	3.0	8.3	25.0
	42.	1	3.0	8.3	33.3
	47.	1	3.0	8.3	41.7
	50.	1	3.0	8.3	50.0
	58.	2	6.1	16.7	66.7
	75.	1	3.0	8.3	75.0
	77.	1	3.0	8.3	83.3
	79.	1	3.0	8.3	91.7
	82.	1	3.0	8.3	100.0
	0.	21	63.6	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 12 MISSING CASES 21

BEST COPY AVAILABLE

TABLE XIX

AAPSPRE

CATEGORY LABEL	SCORE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	49.	1	3.0	10.0	10.0
	52.	1	3.0	10.0	20.0
	68.	1	3.0	10.0	30.0
	77.	1	3.0	10.0	40.0
	84.	1	3.0	10.0	50.0
	86.	1	3.0	10.0	60.0
	87.	1	3.0	10.0	70.0
	89.	1	3.0	10.0	80.0
	92.	1	3.0	10.0	90.0
	93.	1	3.0	10.0	100.0
	0.	23	69.7	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 10 MISSING CASES 23

TABLE XX

AAPSPOST

CATEGORY LABEL	SCORE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	ADJUSTED FREQ (PCT)	CUM FREQ (PCT)
	73.	1	3.0	20.0	20.0
	79.	1	3.0	20.0	40.0
	81.	1	3.0	20.0	60.0
	95.	1	3.0	20.0	80.0
	99.	1	3.0	20.0	100.0
	0.	28	84.8	MISSING	100.0
	TOTAL	33	100.0	100.0	

VALID CASES 5 MISSING CASES 28

BEST COPY AVAILABLE

COMPARISON OF PARENT, TEACHER, AND THERAPIST ESTIMATE OF THE CHILD'S ABILITIES.

Two separate studies were performed to compare the parent perceptions of child abilities with the perceptions of the professionals. The first one compares the parent estimates of the severity of the children's handicaps with that of the project therapists, while the second compares the parent estimates of the children's abilities with that of the mainstream teachers. To compare parent and therapist estimates of each child's handicap, both the parent and the therapist rated the child on a 10 point scale after the child's second visit. A 10 was considered a severe handicap with a 1 (one) considered normal hearing. A t-test was performed on the results of 25 pairs of ratings. A significant difference was found with the therapist estimate (X=4.88) being more severe than the parents estimate (X=3.24). However, both estimates were closer to normal hearing than to a severe handicap. Table XXI presents the results of the t-test.

TABLE XXI

A Comparison of Parent and Therapist Estimate of Child's Handicap

NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	CORR.	2-TAIL PROB.	t VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
PARENT ESTIMATE OF CHILD'S HANDICAP											
27	3.2222	1.311	.252	-1.4815	1.968	.379	.555	.003	-3.91	26	.001
THERAPIST ESTIMATE OF CHILD'S HANDICAP											
27	4.7037	2.347	.455								

To compare the parent estimates of the children's abilities with those of the mainstream teacher, the Alpern-Boll Developmental Profile II was administered to both the teacher and the parent by the therapist at the end of each scheduled year. Five separate age

scores (by month) were recorded: Physical, Self-help, Social, Academic, and Communication. Table XXII presents the results of the five separate t-tests performed on 14 subjects. The results indicate no significant difference on any of the five variables. While the differences were not great enough to be significant, an examination of the group means shows that the parents rated their child higher on all of the five variables except Academics where the teachers' mean age estimate was 0.07 months higher.

TABLE XXII

A Comparison of Parent and Teacher Estimate of the Child's Abilities

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	CORR.	2-TAIL PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
TABPHPRE	TEACHER-ALPERN & DOLL PHYSICAL PRE	34.3667	17.964	4.639								
	15				-3.4667	9.086	2.346	.874	.000	-1.48	14	.162
PABPHPRE	PARENT- AAB PHYSICAL PRE	37.7333	18.187	4.696								
TABSHPRE	TEACHER- AAB SELF-HELP PRE	36.8000	21.472	5.544								
	15				-2.9333	8.447	2.181	.927	.000	-1.34	14	.200
PABSHPRE	PARENT-AAB SELF-HELP PRE	41.7333	22.389	5.773								
TABSOPRE	TEACHER- AAB SOCIAL PRE	33.2000	20.796	5.369								
	15				-5.4667	12.106	3.126	.838	.000	-1.75	14	.102
PABSOPRE	PARENT- AAB SOCIAL PRE	38.6667	21.642	5.588								
TABACPRE	TEACHER-AAB ACADEMIC PRE	29.9333	19.364	4.995								
	15				.2000	7.993	2.064	.911	.000	.10	14	.924
PABACPRE	PARENT- AAB ACADEMIC PRE	29.7333	17.523	4.525								
TABCOPRE	TEACHER- AAB COMMUNIC. PRE	25.4286	22.277	5.954								
	14				-1.5714	7.891	2.109	.945	.000	-.75	13	.469
PABCOPRE	PARENT- AAB COMMUNICATION PRE	27.0000	18.004	4.812								

BEST COPY AVAILABLE

PARENT EVALUATION OF THE INTERVENTION PROJECT

At the end of the project parents were asked to evaluate the project using the Parent Evaluation of Unisensory Project evaluation form. The form contains 16 questions which require a four-point response ranging from Very Satisfied to Very Dissatisfied, and four questions requiring short answers. The following evaluation form contains the mean and standard deviation values for the 29 parents who completed the form. The results are most supportive for the project, with the mean scores ranging from a high of 3.97 to a low of 2.77 which is considered somewhat satisfied.

Auditory Educational Clinic
UNIsensory Project

PARENTS EVALUATION OF UNISENSORY PROJECT

Name (optional)_____ Mother ___ Father___

In order for us to get a better understanding on how to serve your needs, please fill out the following questionnaire using the scale below:

Very Satisfied (VS) = 4 Somewhat Dissatisfied (SD) = 2
Somewhat Satisfied (SS) = 3 Very Dissatisfied (VD) = 1

		$\bar{X}$	SD
1.	Assessment & evaluation of your child	3.66	0.57
2.	Your child's Individual Educational Plan (IEP)	3.78	0.45
3.	Special services/referrals as needed for you/your child	3.79	0.43
4.	Accessibility of staff	3.89	0.33
5.	Communication between your child's therapist & yourself	3.97	0.50
6.	Understanding of demonstration-therapy session	3.86	0.42
7.	Amount of time spent with your child by staff	3.76	0.50
8.	Staff competencies; staff qualifications and expertise	3.82	0.47
9.	Information given to you by staff about your child's hearing abilities and audiological management	3.79	0.50
10.	Information given to you by the staff about your child's hearing aids	3.57	0.69
11.	Information given to you about your child's language abilities and needs	3.76	0.50
12.	Support from staff in dealing with your child	3.97	0.50
13.	Communication between your child's therapist and his/her preschool teacher	3.15	1.00
14.	Observation and written reports by staff on your child's mainstream placement	3.60	0.65
15.	Communication with your child's audiologist and staff	3.44	0.65
16.	Parent meetings in general	2.77	0.98

17. What do you think are the best parts of the Project?
    For your child_____
    For you_____
18. What do you especially like or dislike about any individual staff member?_____
19. Are there things you do differently than you did pre-project, or things you no longer do? Explain_____
    _____
20. Any additional comments regarding staff members or Project (positive or negative)_____
    _____

5/1/81 -PLEASE USE REVERSE IF NEEDED-

BEST COPY AVAILABLE

CONCLUSIONS

In conclusion, the Unisensory Project was very successful in improving the aided thresholds of hearing impaired subjects with the use of amplification. 90% of the subjects were improved by at least 1 category with 3 of 11 profound subjects having dramatically improved to a mild aided threshold. Only 3 subjects did not show improvement and were in the profound range; in fact, these 3 subjects demonstrated no residual hearing according to conventional audiometric testing. It should be noted that one third of the subjects in the Unisensory Project were diagnosed as having profound hearing losses.

At the present time, it is impossible to draw conclusions relative to gains in language acquisition due to the fact that only 5 subjects (9%) were in this program for at least 24 months. This Project is being continued as part of the Auditory Educational Clinic, albeit without federal funds, and will follow the remaining subjects. Therefore, more conclusive results will be presented at a later date.

This project was completely successful in Mainstreaming. All of the subjects who were eligible, i.e., at least 2½ years of age, were mainstreamed into regular classrooms for normally hearing children. Mainstreamed settings included private and public nursery and kindergarten programs as well as Head Start programs.

In comparing parent and therapist estimates of the effect of hearing loss on the child, therapists tended to rate the handicap as being more severe which appeared to be a more accurate estimate of the

child's level of functioning. No difference was found between the mainstream teachers' and parents' estimates of the child's level of functioning in any areas of development. It is of interest to note that no parents rated or perceived their child's hearing handicap as being worse than 6 on a scale of 1 to 10, while therapists rated 7 of the subjects as being worse than 6.

The 29 participating parents were most positive in supporting the project on 16 evaluation questions. Of these items, 15 were rated VS with one item (Parent Meetings) rated SS. There were no dissatisfactions stated in any area. Parents were given the option of making additional comments. Examples of these comments are:

"I like the fact that they do not lower their expectations because the child is hearing impaired."

"Everyone genuinely cares about the needs of the children and are able to emphasize positive aspects and gains made in any given situation."

"The program has opened up avenues for Cole that I would have never thought possible."

"Everything is different. We have learned to really focus as a family on hearing and language."

"Project is very worthwile. Would like it to be available nationwide."

"I am more firm with my child and talk out problems."

"The best part of the project for me - I am a major part of her progress."

RECOMMENDATIONS FOR FUTURE PROJECTS:

1. To be able to effectively evaluate this project, the evaluation component must be established before intervention begins. It may be necessary for the funding agency to establish uniformity in regard to the overall evaluation procedures and techniques. If possible, specific tests should be specified utilizing the same consultants over time.

2. Due to the low incidence of hearing handicaps, it would enhance the value of this program if this type of program could be funded for a longer period of time.

3. It's recommended that an assessment instrument or battery of instruments be identified or developed to cover an entire range of the preschool population. This would enable pre-testing and post-testing to occur over a 3-5 year period while using the same instrument.